424B5 1 d301658d424b5.htm 424B5

Table of Contents

Filed pursuant to Rule 424(b)(5)
Registration No. 333-215400

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Unit	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee
Common Stock, par value $0.001 per share	5,750,000	$41.00	$235,750,000	$27,323.43

(1) Assumes exercise in full of the underwriters' option to purchase up to 750,000 additional shares of common stock of the registrant.

(2) Calculated in accordance with Rule 457(r) under the Securities Act of 1933, as amended, and relates to the Registration Statement on Form S-3 (File No. 333-215400) filed by the Registrant on January 3, 2017.

Table of Contents

Prospectus Supplement
(To Prospectus dated January 3, 2017)

5,000,000 Shares

COMMON STOCK

We are offering 5,000,000 shares of our common stock as described in this prospectus supplement and the accompanying prospectus.

Our common stock is listed on the NASDAQ Global Select Market under the symbol "CLVS." On January 3, 2017 the last reported sale price of our common stock on the NASDAQ Global Select Market was $42.95 per share.

	Per Share	Total
Public offering price	$ 41.00	$205,000,000
Underwriting discounts and commissions(1)	$ 2.46	$ 12,300,000
Proceeds to Clovis, before expenses	$ 38.54	$192,700,000

(1) We refer you to "Underwriting" beginning on page S-26 of this prospectus supplement for additional information regarding underwriting compensation.

We have granted the underwriters an option for a period of 30 days to purchase up to 750,000 additional shares of our common stock.

Investing in our common stock involves risks. See "Risk Factors" on page S-7 of this prospectus supplement and any other risk factors included in the accompanying prospectus and in the documents incorporated by reference in this prospectus supplement or the accompanying prospectus for a discussion of the factors you should carefully consider before deciding to purchase shares of our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares on or about January 9, 2017.

J.P. Morgan **BofA Merrill Lynch**

Co-Managers

Stifel **SunTrust Robinson Humphrey**

January 3, 2017

Table of Contents

TABLE OF CONTENTS

PROSPECTUS SUPPLEMENT

PROSPECTUS

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus dated January 3, 2017 are part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a "shelf" registration process. Under this shelf registration process, we may from time to time offer to sell shares of common stock in one or more offerings. We provide information to you about this offering of shares of our common stock in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering; and (2) the accompanying prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this "prospectus," we are referring to both documents combined. If information in this prospectus supplement is inconsistent with the accompanying prospectus, you should rely on this prospectus supplement. However, if any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement as our business, financial condition, results of operations and prospects may have changed since the earlier dates. You should read this prospectus supplement, the accompanying prospectus, the documents and information incorporated by reference in this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering when making your investment decision. You should also read and consider the information in the documents we have referred you to under the headings "Where You Can Find More Information and "Incorporation by Reference."

This prospectus supplement may not be used to consummate a sale of our common stock unless it is accompanied by the accompanying prospectus.

You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus or in any related free writing prospectus filed by us with the SEC. We have not authorized anyone to provide you with different information. This prospectus supplement and the accompanying prospectus do not constitute an offer to sell or the solicitation of an offer to buy our common stock other than our common stock described in this prospectus supplement or an offer to sell or the solicitation of an offer to buy our common stock in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

Clovis Oncology®, the Clovis logo and Rubraca™ are trademarks of Clovis Oncology, Inc. in the United States and in other selected countries. All other brand names or trademarks appearing in this prospectus supplement are the property of their respective holders. Unless the context requires otherwise, references in this prospectus supplement to "Clovis," the "Company," "we," "us," and "our" refer to Clovis Oncology, Inc. together with its consolidated subsidiaries.

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

We file reports and proxy statements with the SEC. These filings include our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and proxy statements on Schedule 14A, as well as any amendments to those reports and proxy statements, and are available free of charge through our website as soon as reasonably practicable after we file them with, or furnish them to, the SEC. Once at *www.clovisoncology.com*, go to Investors & News to locate copies of such reports and proxy statements. Our website and the information contained on, or that can be accessed through, the website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus supplement or the accompanying prospectus. You should not rely on any such information in making your decision whether to purchase our common stock. You may also read and copy materials that we file with SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website at *www.sec.gov* that contains reports, proxy and information statements and other information regarding us and other issuers that file electronically with the SEC.

We have filed with the SEC a registration statement on Form S-3 under the Securities Act of 1933, as amended, relating to the shares of our common stock being offered by this prospectus. This prospectus supplement and the accompanying prospectus, which constitutes part of that registration statement, do not contain all of the information set forth in the registration statement or the exhibits and schedules which are part of the registration statement. For further information about us and the common stock offered, see the registration statement and the exhibits and schedules thereto. Statements contained in this prospectus supplement or the accompanying prospectus regarding the contents of any contract or any other document to which reference is made are not necessarily complete, and, in each instance where a copy of a contract or other document has been filed as an exhibit to the registration statement, reference is made to the copy so filed, each of those statements being qualified in all respects by the reference.

Table of Contents

INCORPORATION BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus supplement the information we file with the SEC in other documents, which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus supplement. The information incorporated by reference is considered to be part of this prospectus supplement and the accompanying prospectus, and later information that we file with the SEC will automatically update and supersede such information. We incorporate by reference the documents listed below and any future information filed (rather than furnished) with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, between the date of this prospectus supplement and the date we close or otherwise terminate this offering, provided, however, that we are not incorporating any information furnished under Item 2.02 or Item 7.01 of any Current Report on Form 8-K:

- our Annual Report on Form 10-K for the year ended December 31, 2015, as filed with the SEC on February 29, 2016;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2016, as filed with the SEC on May 6, 2016, June 30, 2016, as filed with the SEC on August 9, 2016, and September 30, 2016, as filed with the SEC on November 4, 2016;
- our Definitive Proxy Statement on Schedule 14A, as filed with the SEC on April 27, 2016, and the additional definitive proxy soliciting materials, as filed with the SEC on April 27, 2016;
- our Current Reports on Form 8-K, as filed with the SEC on April 1, 2016, June 10, 2016, August 30, 2016, September 8, 2016 and October 4, 2016; and
- the description of our common stock contained in our registration statement on Form 8-A as filed with the SEC on November 10, 2011, including any amendments or reports filed for the purpose of updating the description.

We will furnish without charge to you a copy of any or all of the documents incorporated by reference, including exhibits to these documents, upon written or oral request. Direct your written request to: Investor Relations, Clovis Oncology, Inc., 5500 Flatiron Parkway, Suite 100, Boulder, Colorado 80301, or contact Investor Relations at (303) 625-5000.

A statement contained in a document incorporated by reference into this prospectus supplement or the accompanying prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this or any other prospectus supplement, or in any other subsequently filed document which is also incorporated in this prospectus supplement modifies or replaces such statement. Any statements so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement or the accompanying prospectus.

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

The following summary highlights information about us and this offering. This summary does not contain all of the information that may be important to you. You should read and carefully consider the following summary together with the entire prospectus supplement, the accompanying prospectus the information incorporated by reference in this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering, before deciding to invest in our common stock. Some of the statements in this prospectus supplement constitute forward-looking statements that involve risks and uncertainties. See "Cautionary Note Regarding Forward-Looking Statements." Our actual results could differ materially from those anticipated in such forward-looking statements as a result of certain factors, including those discussed in the "Risk Factors" and other sections of this prospectus supplement.

About Clovis

We are a biopharmaceutical company focused on acquiring, developing and commercializing innovative anti-cancer agents in the United States, Europe and additional international markets. We target our development programs for the treatment of specific subsets of cancer populations, and simultaneously develop, with partners, diagnostic tools intended to direct a compound in development to the population that is most likely to benefit from its use. Our commercial product Rubraca™ (rucaparib) is the first and only oral, small molecule poly ADP-ribose polymerase, or PARP, inhibitor of PARP1, PARP2 and PARP3 approved in the United States by the Food and Drug Administration, or FDA, as monotherapy for the treatment of patients with deleterious BRCA (human genes associated with the repair of damaged DNA) mutation (germline and/or somatic) associated advanced ovarian cancer, who have been treated with two or more chemotherapies, and selected for therapy based on an FDA-approved companion diagnostic for Rubraca. The Marketing Authorization Application, or MAA, submission with the European Medicines Agency, or EMA, for a comparable ovarian cancer indication was accepted by the EMA during the fourth quarter of 2016. Additionally, rucaparib is being studied as a potential maintenance therapy in the ARIEL3 trial. Rucaparib is also being explored in other solid tumor types with significant BRCA and BRCA-like populations (patients with tumors that have defective DNA repair function for reasons other than BRCA gene mutations, including those with high genomic loss of heterozygosity, or LOH), including prostate, breast, pancreatic, bladder, lung and gastroesophageal cancers. We hold worldwide rights for rucaparib.

We have built our organization to support innovative oncology drug development for the treatment of specific subsets of cancer populations. To implement our strategy, we have assembled an experienced team with core competencies in global clinical and non-clinical development, regulatory operations and commercialization in oncology, as well as conducting collaborative relationships with companies specializing in companion diagnostic development.

We were incorporated under the laws of the State of Delaware in April 2009. Our principal executive offices are located at 5500 Flatiron Parkway, Suite 100, Boulder, Colorado 80301, and our telephone number is (303) 625-5000. Our website address is *www.clovisoncology.com*. Our website and the information contained on, or that can be accessed through, the website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus supplement or the accompanying prospectus. You should not rely on any such information in making your decision whether to purchase our common stock.

Recent Developments

On December 19, 2016, we announced that the U.S. Food and Drug Administration, or FDA, approved Rubraca™ (rucaparib) tablets as monotherapy for the treatment of patients with deleterious BRCA mutation (germline and/or somatic) associated advanced ovarian cancer, who have been treated with two or more

Table of Contents

chemotherapies, and selected for therapy by an FDA-approved companion diagnostic for Rubraca. Continued approval for this indication may be contingent upon verification and description of clinical benefit in ARIEL3 and/or ARIEL4, our confirmatory trials. Our commercial and medical affairs organizations in the United States are in place and are supporting the commercial launch of Rubraca.

The Rubraca New Drug Application, or NDA, filing received priority review from the FDA and was reviewed and approved under the FDA's accelerated approval program. A priority review designation means FDA's goal is to take action on an application within six months (rather than 10 months under a standard review) for a product intended to treat a serious condition and that, if approved, would provide a significant improvement in safety or effectiveness. Under FDA's accelerated approval program, FDA may approve an application for a product intended to treat a serious or life-threatening condition upon a determination that the product has an effect on a surrogate endpoint reasonably likely to predict clinical benefit, or a clinical endpoint that can be measured earlier than irreversible morbidity or mortality, that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit and taking into account the severity, rarity, or prevalence of the condition and the availability or lack of alternative treatments. The NDA efficacy data set was based on results from two multicenter, single-arm, open-label clinical trials, Study 1 (Study 10, NCT01482715) and Study 2 (ARIEL2 Parts 1 and 2, NCT01891344), in women with advanced BRCA-mutant ovarian cancer who had progressed after two or more prior chemotherapies. Objective response rate, or ORR, and duration of response, or DOR, were assessed by the investigator and independent radiology review, or IRR, according to Response Evaluation Criteria in Solid Tumors, or RECIST, version 1.1.

Efficacy results

ORR and DOR in the 106 patients with BRCA-mutant ovarian cancer who received two or more chemotherapies who were evaluable for efficacy in the pooled analysis of Study 1 and Study 2, were as follows:

Overall Response and Duration of Response in Patients with *BRCA*-mutant Ovarian Cancer Who Received Two or More Chemotherapies in Study 1 and Study 2

	Investigator-assessed N=106
ORR (95% CI)	54% (44, 64)
Complete Response	9%
Partial Response	45%
Median DOR in months (95% CI)	9.2 (6.6, 11.6)

Response assessment by IRR was 42% (95% confidence interval, or CI: 32, 52), with a median DOR of 6.7 months (95% CI: 5.5, 11.1). Investigator-assessed ORR was 66% (52/79; 95% CI: 54, 76) in platinum-sensitive patients, 25% (5/20; 95% CI: 9, 49) in platinum-resistant patients, 0% (0/7; 95% CI: 0, 41) in platinum-refractory patients, 53% (47/88; 95% CI: 43, 64) in patients with a germline BRCA mutation, 56% (10/18; 95% CI: 31, 79) in patients with a somatic BRCA mutation, 68% (28/41; 95% CI: 52, 82) in patients who received two prior chemotherapies and 65% (39/60; 95% CI: 52, 77) in patients who received two prior platinum-based chemotherapies. ORR was similar for patients with a BRCA1 gene mutation or BRCA2 gene mutation. With respect to the target lesion component of RECIST, the majority of patients experienced a decrease in the sum of the diameters of the target lesions.

Safety data

The overall safety evaluation of Rubraca 600 mg twice daily as monotherapy is based on data from 377 patients with ovarian cancer treated in two open-label, single arm trials. The most common adverse reactions

Table of Contents

(≥ 20% of patients; Grade 1-4) were nausea, asthenia/fatigue, vomiting, anemia, constipation, dysgeusia, decreased appetite, diarrhea, abdominal pain, thrombocytopenia and dyspnea. The most common laboratory abnormalities (≥ 35% of patients; Grade 1-4) were increase in creatinine, increase in aspartate aminotransferase, or AST, levels, increase in alanine aminotransferase levels, or ALT, decrease in hemoglobin, decrease in lymphocytes, increase in cholesterol, decrease in platelets and decrease in absolute neutrophil count. The most common Grade 3-4 adverse reaction was anemia, and the most common Grade 3-4 laboratory abnormality was a decrease in hemoglobin.

Myelodysplastic Syndrome/Acute Myeloid Leukemia, or MDS/AML, was reported in two of the 377 (0.5%) patients with ovarian cancer treated with Rubraca. Both of these patients had received prior treatment with platinum and other DNA damaging agents. In addition, AML was reported in two (<1%) patients with ovarian cancer enrolled in ARIEL3, a blinded, randomized trial evaluating Rubraca versus placebo. One case of AML was fatal. Both patients had received prior treatment with platinum and other DNA damaging agents.

Companion Diagnostic

Clovis partnered with Foundation Medicine, Inc. to co-develop a companion diagnostic test, the FDA approved FoundationFocus™ CDx$_{BRCA}$, to select patients for Rubraca treatment. FoundationFocus CDx$_{BRCA}$ is a next-generation sequencing assay that assesses tumor BRCA mutations from tumor tissue samples from patients with ovarian cancer.

Rucaparib Clinical Development

The ARIEL (Assessment of Rucaparib in Ovarian Cancer Trial) program is a novel, integrated translational-clinical program designed to accurately and prospectively identify ovarian cancer patients with tumor genotypes associated with benefit from rucaparib therapy.

The ARIEL3 pivotal study (NCT01968213) is a randomized, double-blind study comparing the effects of rucaparib against placebo to evaluate whether rucaparib given as a maintenance therapy to platinum-sensitive patients can extend the period of time for which the disease is controlled after a positive outcome with platinum-based chemotherapy. Patients who have high-grade serous ovarian cancer and have had at least two prior lines of platinum based chemotherapies are randomized to receive either placebo or rucaparib and the primary endpoint of the study is progression free survival, or PFS. The primary efficacy analysis will evaluate, in a step-down process, BRCA-mutant patients, all patients with a homologous recombination deficiency, or HRD, signature (including BRCA and non-BRCA), followed by all patients. Target enrollment in ARIEL3 was completed during the second quarter of 2016. Data from ARIEL3 are expected mid-2017. Pending positive data from ARIEL3, we intend to follow up with a supplemental NDA for second-line maintenance therapy in women with ovarian cancer who have responded to platinum-based therapy.

The ARIEL4 confirmatory study (NCT 02855944), which is open for enrollment, is a Phase 3 multicenter, randomized study of rucaparib versus chemotherapy in relapsed ovarian cancer patients with BRCA mutations (inclusive of germline and/or somatic) who have failed two prior lines of therapy. The primary endpoint of the study is PFS.

In addition to the ARIEL program, we are sponsoring or supporting several clinical studies in both ovarian and other indications:

- a Phase 2 investigator-initiated study, MITO-25, evaluating rucaparib and bevacizumab in combination as a first-line maintenance therapy for advanced ovarian cancer expected to initiate during the first quarter of 2017.

Table of Contents

- based on encouraging pre-clinical data, we entered into a Phase 1B combination study sponsored by Genentech, of the cancer immunotherapy Tecentriq (atezolizumab; anti-PDL1) and rucaparib for the treatment of solid tumors and gynecological cancers, with a focus on ovarian cancer, which is expected to have the first patient initiated during the first quarter of 2017.
- the investigator-initiated RUBY Phase 2 study in women with breast cancer whose tumors have a somatic BRCA mutation or HRD signature other than a known germline BRCA mutation, which enrolled the first patient in the third quarter of 2016.
- the investigator-initiated PLATFORM Phase 2 study in gastroesophageal cancer in the first-line maintenance setting, which is expected to initiate during the first quarter of 2017.
- the investigator-initiated Phase 2 STRAT-STAMPEDE study in newly-diagnosed castrate-sensitive *de novo* metastatic prostate cancer patients whose tumors have a tBRCA mutation or are HRD positive, which is expected to initiate during the first half of 2017.
- the investigator-initiated RIO Phase 2 study in triple-negative or gBRCA breast cancer patients, which initiated during the third quarter of 2015.
- the Clovis-sponsored TRITON2 (**T**rial of **R**ucapar**i**b in Pros**t**ate Indicati**on**s) study in metastatic castrate-resistant prostate cancer, or mCRPC, a Phase 2 single-arm study enrolling patients with BRCA mutations and ataxia-telangiectasia mutations, or ATM, (both inclusive of germline and/or somatic) or other deleterious mutations in other homologous recombination repair genes and all patients will have progressed after receiving one line of taxane-based chemotherapy and one or two lines of androgen-receptor, or AR, targeted therapy in the castrate-resistant setting. The primary endpoints of the study are radiologic ORR in patients with measurable disease and protein-specific antigen response rate in patients who do not have measurable disease. TRITON2 initiated during the fourth quarter of 2016.
- the Clovis-sponsored TRITON3 study, a Phase 3 comparative study in mCRPC enrolling BRCA mutant and ATM (both inclusive of germline and/or somatic) patients who have progressed on AR-targeted therapy and who have not yet received chemotherapy in the castrate-resistant setting. TRITON3 is planned to initiate during the first quarter of 2017. TRITON3 will compare rucaparib to physician's choice of AR-targeted therapy or chemotherapy in these patients. The planned primary endpoint of the study is radiologic PFS.

Table of Contents

THE OFFERING

Common stock offered	5,000,000 shares of common stock
Common stock to be outstanding immediately following this offering	43,582,755 shares
Underwriters' option	Up to 750,000 shares of common stock
Use of proceeds	We estimate that the net proceeds from this offering will be approximately $192.0 million, or approximately $221.1 million if the underwriters exercise their option pursuant to this offering to purchase additional shares of our common stock in full, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, but without giving effect to any reimbursement of certain of our expenses by the underwriters. We anticipate that we will use the net proceeds of this offering for general corporate purposes, including commercial planning and sales and marketing expenses associated with the launch of Rubraca in the United States and, if approved by the EMA, in Europe, funding of our development programs, general and administrative expenses, acquisition or licensing of additional product candidates or businesses and working capital. See "Use of Proceeds" for a more complete description of the intended use of proceeds from this offering.
Risk factors	You should read the "Risk Factors" section of this prospectus supplement and the accompanying prospectus and in the documents incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors you should carefully consider before deciding to invest in our common stock.
NASDAQ Global Select Market symbol	CLVS

The number of shares of our common stock to be outstanding after this offering set forth above is based on 38,582,755 shares of our common stock outstanding as of September 30, 2016.

The number of shares of our common stock to be outstanding after this offering set forth above excludes:

- 5,741,271 shares of our common stock issuable upon the exercise of stock options outstanding as of September 30, 2016 at a weighted-average exercise price of $42.51 per share;
- 483,185 shares of our common stock issuable upon the vesting of restricted stock units outstanding as of September 30, 2016;
- 1,705,917 shares of our common stock reserved for future issuance under our 2011 Equity Incentive Plan, or the 2011 Plan, as of September 30, 2016, plus any annual increases in the number of shares of common stock reserved for future issuance under the 2011 Plan pursuant to an "evergreen provision" and any other shares that may become issuable under the 2011 Plan pursuant to its terms;
- 298,047 shares of our common stock reserved for future issuance under our 2011 Employee Stock Purchase Plan, or the ESPP, as of September 30, 2016, plus any annual increases in the number of

Table of Contents

shares of our common stock reserved for future issuance under the ESPP pursuant to an "evergreen provision" and any other shares that may become issuable under the ESPP pursuant to its terms; and

- 4,646,460 shares that may be issuable upon conversion of our 2.5% Convertible Senior Notes due 2021.

Unless we specifically state otherwise, the information in this prospectus supplement does not give effect to the:

- exercise by the underwriters pursuant to this offering of their option to purchase up to 750,000 additional shares of our common stock.

Table of Contents

RISK FACTORS

Investing in our common stock involves significant risks. Please see the risk factors below and under the heading "Risk Factors" in our most recently filed Annual Report on Form 10-K, as revised or supplemented by our Quarterly Reports on Form 10-Q filed with the SEC since the filing of our most recent Annual Report on Form 10-K, all of which are incorporated by reference in this prospectus supplement. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus supplement and the accompanying prospectus. The risks and uncertainties we have described are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations.

Risks Related to This Offering

If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.

The public offering price is substantially higher than the net tangible book value per share of our common stock. Investors purchasing common stock in this offering will pay a price per share that substantially exceeds the book value of our tangible assets after subtracting our liabilities. As a result, investors purchasing common stock in this offering will incur immediate dilution of $36.67 per share.

This dilution is due to our investors who purchased shares prior to this offering having paid substantially less than the price offered to the public in this offering when they purchased their shares. In addition, as of September 30, 2016, options to purchase 5,741,271 shares of our common stock at a weighted-average exercise price of $42.51 per share were outstanding, 483,185 shares of our common stock were issuable upon the vesting of restricted stock units and 4,646,460 shares were issuable upon conversion of our 2.5% Convertible Senior Notes due 2021. The exercise of any of these options or conversion of the notes would result in additional dilution. As a result of the dilution to investors purchasing shares in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of our liquidation. Further, because we will need to raise additional capital to develop our commercialization capabilities and fund our clinical development programs, we may in the future sell substantial amounts of common stock or securities convertible into or exchangeable for common stock. These future issuances of common stock or common stock-related securities, together with the exercise of outstanding options and any additional shares issued in connection with acquisitions, if any, may result in further dilution to investors. For a further description of the dilution that you will experience immediately after this offering, see "Dilution."

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering, and you will be relying on the judgment of our management regarding the application of these proceeds. You will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. Our management might not apply our net proceeds in ways that ultimately increase the value of your investment. We anticipate that we will use the net proceeds of this offering for general corporate purposes, including commercial planning and sales and marketing expenses associated with the launch of Rubraca in the United States and Europe, if approved by the EMA, funding of our development programs, general and administrative expenses, acquisition or licensing of additional product candidates or businesses and working capital. Pending these uses, we may invest the net proceeds in short-term, interest-bearing investment grade securities, certificates of deposit or direct or guaranteed obligations of the U.S. government. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

Table of Contents

Risks Related to Our Business

We are highly dependent on the commercial success of Rubraca in the U.S.; Rubraca may not achieve market acceptance and may not be commercially successful and we may not attain profitability and positive cash-flow from operations.

On December 19, 2016, the FDA granted approval for Rubraca as monotherapy for the treatment of patients with deleterious BRCA mutation (germline and/or somatic) associated advanced ovarian cancer, who have been treated with two or more chemotherapies, and selected for therapy based on an FDA-approved companion diagnostic for Rubraca. Rubraca is commercially available. The degree of market acceptance and the commercial success of Rubraca will depend on a number of factors, including:

- the effectiveness of our sales and marketing strategy and operations;
- maintaining compliance with all regulatory requirements applicable to Rubraca and our commercial activities, including the post-marketing requirements and post-marketing commitments required by the FDA to verify Rubraca's clinical benefit or safety by completing certain confirmatory trials, pharmacology studies and additional diagnostic development;
- the acceptance of Rubraca by patients and the medical community and the availability, perceived advantages and relative cost, safety and efficacy of alternative and competing products and therapies;
- the continued acceptable safety profile of Rubraca and the occurrence of any unexpected side effects, adverse reactions or misuse, or any unfavorable publicity in these areas;
- the ability of our third-party manufacturers to manufacture commercial supplies of Rubraca, to remain in good standing with regulatory agencies, and to develop, validate and maintain commercially viable manufacturing processes that are, to the extent required, compliant with current good manufacturing practice, or cGMP, regulations;
- the availability of coverage and adequate reimbursement from managed care plans, private health insurers and other third-party payors and the willingness and ability of patients to pay for Rubraca;
- the development or commercialization of competing products or therapies;
- marketing and distribution support for Rubraca, including the degree to which the approved labeling supports promotional initiatives for commercial success;
- the actual market-size for Rubraca, which may be different than expected;
- our ability to enforce our intellectual property rights in and to Rubraca;
- our ability to avoid third party patent interference or patent infringement claims; and
- our ability to obtain regulatory approvals to commercialize Rubraca in markets outside of the U.S.

As many of these factors are beyond our control, we cannot assure you that we will ever be able to generate meaningful revenue through the sale of Rubraca. In addition, we may experience significant fluctuations in sales of Rubraca from period to period. We currently do not have any other product candidates in active development. Any inability on our part to successfully commercialize Rubraca in the United States and any foreign territories where it may be approved, or any significant delay in such approvals, could have a material adverse impact on our ability to execute upon our business strategy and, ultimately, to generate sufficient revenues from Rubraca to reach or maintain profitability or sustain our anticipated levels of operations.

Rubraca may cause undesirable side effects or have other properties that could limit its commercial potential.

If we or others identify previously unknown side effects or if known side effects are more frequent or severe than in the past, then:

- sales of Rubraca may decline;
- regulatory approvals for Rubraca may be restricted or withdrawn;

Table of Contents

- we may decide to, or be required to, send product warning letters or field alerts to physicians, pharmacists and hospitals;
- additional non-clinical or clinical studies, changes in labeling or changes to manufacturing processes, specifications and/or facilities may be required;
- government investigations or lawsuits, including class action suits, may be brought against us; and
- our reputation may suffer.

Any of the above occurrences would harm or prevent sales of Rubraca, increase our expenses and impair our ability to successfully commercialize Rubraca. Furthermore, once Rubraca is commercially available, it may be used in a wider population and in a less rigorously controlled environment than in clinical studies. As a result, regulatory authorities, healthcare practitioners, third-party payers or patients may perceive or conclude that the use of Rubraca is associated with previously unknown serious adverse effects, undermining our commercialization efforts.

If our sales, marketing and distribution capabilities for Rubraca or our product candidates for which we obtain marketing approval are inadequate, we may be unable to generate revenue from sales of our products.

Prior to the launch of Rubraca, we had not commercialized any drug products as a company. To achieve commercial success for Rubraca and any product candidate that may be approved by the FDA or comparable foreign regulatory authorities, we must continue to expand our sales, marketing, managerial and other non-technical capabilities or make arrangements with third parties to perform these services. We will be competing with companies that currently have extensive, well-funded, and more experienced sales and marketing operations. We may be unable to compete successfully against these more established companies.

We have recently built a field organization and other capabilities for the sales, marketing and distribution of Rubraca in the United States, and there are significant risks involved with building and managing a sales organization. Factors that may inhibit our efforts to effectively commercialize Rubraca on our own include:

- our inability to recruit, train, retain and incentivize adequate numbers of qualified and effective sales and marketing personnel;
- the inability of sales personnel to generate sufficient sales leads and to obtain access to physicians or persuade adequate numbers of physicians to use or prescribe Rubraca;
- our inability to effectively manage a geographically dispersed sales and marketing team.

If we are unable to maintain effective sales, marketing and distribution capabilities for Rubraca in the United States or if we are unable to establish and maintain sales, marketing and distribution capabilities for Rubraca outside of the United States, if approved, or for any other product candidate for which we obtain marketing approval, whether independently or with third parties, we may not be able to generate product revenue or may not become profitable. If the cost of establishing and maintaining a sales and marketing organization exceeds the cost-effectiveness of doing so, we may not become profitable.

Our relationships with healthcare professionals, investigators, consultants, customers (actual and potential) and third party payers are and will continue to be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws, transparency and disclosure (or "sunshine") laws, government price reporting, and health information privacy and security laws.

If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties. Our operations may be directly, or indirectly through our customers, subject to various federal and state fraud and abuse laws, including, without limitation, the federal Anti-Kickback Statute and the federal False Claims Act. These laws may affect, among other things, our current activities with clinical study investigators and

Table of Contents

research subjects, as well as proposed and future sales, marketing, disease awareness, and patient assistance programs. In addition, we may be subject to patient privacy regulation by both the federal government and the states in which we conduct our business. The laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or certain rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, either the referral of an individual, or the purchase, lease, order or recommendation of any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. A person or entity does not need to have actual knowledge of the federal Anti-Kickback Statute or specific intent to violate the law in order to have committed a violation; in addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal False Claims Act;
- federal false claims and civil monetary penalty laws, including the False Claims Act, which impose criminal and civil penalties, including through civil "qui tam" or "whistleblower" actions, against individuals or entities from knowingly presenting, or causing to be presented, claims for payment or approval from federal programs, such as Medicare and Medicaid, that are false or fraudulent or knowingly making a false statement to improperly avoid, decrease or conceal an obligation to pay money to the federal government;
- the Health Insurance Portability and Accountability Act of 1996, or HIPAA, which imposes criminal and civil liability for, among other things, willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program and making false statements relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act and its implementing regulations, which also imposes certain requirements on certain covered healthcare providers, health plans, and healthcare clearinghouses, as well as their respective business associates that perform services for them that involve the use, or disclosure of, individually identifiable health information, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal Physician Payment Sunshine Act, which requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report annually to the Centers for Medicare and Medicaid Services, or CMS, information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists and chiropractors) and teaching hospitals, as well as ownership and investment interests held by the physicians described above and their immediate family members;
- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers;
- federal government price reporting laws, which require drug manufacturers to calculate and report complex pricing metrics to government agencies, including CMS, where such reported prices may be used in the calculation of reimbursement and/or discounts on marketed products. Participation in these programs and compliance with the applicable requirements may result in potentially significant discounts on products subject to reimbursement under federal healthcare programs and increased infrastructure costs, and may potentially limit a drug manufacturer's ability to offer certain marketplace discounts; and
- analogous state laws and regulations, such as state anti-kickback, false claims, consumer protection and unfair competition laws which may apply to pharmaceutical business practices, including but not limited to, research, distribution, sales and marketing arrangements as well as submitting claims

Table of Contents

involving healthcare items or services reimbursed by any third-party payer, including commercial insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government that otherwise restricts payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to file reports with states regarding pricing and marketing information, such as the tracking and reporting of gifts, compensations and other remuneration and items of value provided to healthcare professionals and entities; and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

In addition, the research and development of our product candidates outside the United States, and any sales of our products or product candidates once commercialized outside the United States will also likely subject us to foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

Efforts to ensure that our business arrangements will comply with applicable healthcare laws may involve substantial costs, including investments in infrastructure and additional resources. Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of our business activities, including our consulting agreements and other relationships with physicians, could be subject to challenge under one or more of such laws. Governmental and enforcement authorities may conclude that our business practices do not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of the laws described above or any other governmental regulations that apply to us, we may be subject to, without limitation, civil, criminal, and administrative penalties, damages, monetary fines, disgorgement, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings and curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Table of Contents

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the information incorporated herein by reference includes statements that are, or may be deemed, "forward-looking statements." In some cases, these forward-looking statements can be identified by the use of forward-looking terminology, including the terms "believes," "estimates," "anticipates," "expects," "plans," "intends," "may," "could," "might," "will," "should," "approximately" or, in each case, their negative or other variations thereon or comparable terminology, although not all forward-looking statements contain these words. They appear in a number of places throughout this prospectus supplement and include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our ongoing and planned non-clinical studies and clinical trials, the timing of and our ability to make regulatory filings and obtain and maintain regulatory approvals for our product candidates, the degree of clinical utility of our products, particularly in specific patient populations, expectations regarding clinical trial data, our results of operations, financial condition, liquidity, prospects, growth and strategies, the industry in which we operate and the trends that may affect the industry or us.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events, competitive dynamics, and industry change and depend on the economic circumstances that may or may not occur in the future or may occur on longer or shorter timelines than anticipated. We caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained herein.

Some of the factors that we believe could cause actual results to differ from those anticipated or predicted include:

- the rate and degree of market acceptance and commercial viability, including the safety, efficacy and potency of Rubraca and our other product candidates;
- the successful development of our sales and marketing capabilities, including establishing and maintaining an appropriate commercial infrastructure necessary for the successful commercialization of Rubraca;
- the success of competing drugs that are or become available;
- our ability to verify the clinical benefit of Rubraca through our confirmatory trials to obtain full approval from the FDA and to satisfy other post-marketing requirements and post-marketing commitments, our ability to obtain and maintain regulatory approval of Rubraca from the EMA, our ability to obtain and maintain regulatory approval of our other product candidates, and the labeling under Rubraca and any other approval we may obtain;
- our expectations regarding the FDA's and other regulatory authorities' interpretation of our data and information on our product candidates and the impact on our business of the FDA's and other regulatory authorities' interpretation of our FDA submissions, filing decisions by the FDA and other regulatory authorities, potential advisory committee meeting dates and advisory committee recommendations, and FDA and other regulatory authorities product approval decisions and related timelines;
- our ability to engage third-party manufacturers with sufficient capability and capacity to support the commercialization of Rubraca and our other product candidates, and the performance of such third-party manufacturers;
- third-party payor coverage and reimbursement for Rubraca;
- our ability, with partners, to validate, develop and obtain regulatory approval of companion diagnostics for our product candidates;
- our ability to obtain and maintain intellectual property protection for our product candidates;

Table of Contents

- our ability to maintain our collaborations with our licensing partners to develop our product candidates;
- the size and growth of the potential markets for our product candidates and our ability to serve those markets;
- the success and timing of our non-clinical studies and clinical trials;
- our plans to develop and commercialize our product candidates;
- the loss of key scientific or management personnel;
- regulatory developments in the United States and foreign countries;
- our use of the proceeds from this offering and our ability to raise additional funds to support our business plans;
- the integration of acquired businesses into our operations;
- the accuracy of our estimates regarding expenses, future revenues, capital requirements and needs for additional financing; and
- the impact of any litigation, including the pending securities claims, on us and the sufficiency of our insurance, including our directors' and officers' policies.

Any forward-looking statements that we make in this prospectus supplement speak only as of the date of such statement, and unless required by law, we undertake no obligation to update such statements to reflect events or circumstances after the date of this prospectus supplement or to reflect the occurrence of unanticipated events.

Please refer to the section entitled "Risk Factors" of this prospectus supplement, and any other risk factors set forth in the accompanying prospectus and in any information incorporated by reference in this prospectus supplement or the accompanying prospectus to better understand the risks and uncertainties inherent in our business and underlying any forward-looking statements, as well as any other risk factors and cautionary statements described in the documents we file from time to time with the SEC, specifically our most recent Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K.

Table of Contents

USE OF PROCEEDS

We estimate that our net proceeds from the sale of shares of common stock in this offering will be approximately $192.0 million, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, but without giving effect to any reimbursement of certain of our expenses by the underwriters.

If the underwriters exercise their option pursuant to this offering to purchase additional shares of our common stock in full, we estimate that our net proceeds will be approximately $221.1 million after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, but without giving effect to any reimbursement of certain of our expenses by the underwriters.

We anticipate that we will use the net proceeds of this offering for general corporate purposes, including commercial planning and sales and marketing expenses associated with the launch of Rubraca in the United States and, if approved by the EMA, in Europe, funding of our development programs, general and administrative expenses, acquisition or licensing of additional product candidates or businesses and working capital.

Pending these uses, we may invest the net proceeds in short-term, interest-bearing investment grade securities, certificates of deposit or direct or guaranteed obligations of the U.S. government. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds.

Table of Contents

CAPITALIZATION

The following table sets forth our consolidated cash, cash equivalents and available for sale securities and our consolidated capitalization as September 30, 2016 on:

- an actual basis; and
- an as adjusted basis giving additional effect to the sale of 5,000,000 shares of our common stock offered in this offering, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The information in this table is illustrative only and our capitalization following the completion of this offering will be adjusted based on the actual public offering price and other terms of this offering determined at pricing. You should read this table in conjunction with the entire prospectus supplement, the accompanying prospectus and information incorporated by reference in this prospectus supplement and the accompanying prospectus.

	As of September 30, 2016	
	Actual	As Adjusted
	(unaudited) (dollars in thousands)	
Cash, cash equivalents and available for sale securities	$ 318,778	$ 510,801
Long-term debt:		
2.5% Convertible Senior Notes due 2021	$ 287,500	$ 287,500
Total long-term debt	$ 287,500	$ 287,500
Stockholders' equity:		
Preferred stock, par value $0.001 per share; 10,000,000 shares authorized and no shares issued and outstanding, actual and as adjusted	—	—
Common stock, par value $0.001 per share; 100,000,000 shares authorized and 38,582,755 shares issued and outstanding, actual; 43,582,755 shares issued and outstanding, as adjusted	39	44
Additional paid-in capital	1,162,324	1,354,342
Accumulated other comprehensive loss	(45,010)	(45,010)
Accumulated deficit	(1,060,315)	(1,060,315)
Total stockholders' equity	57,038	249,061
Total capitalization	$ 57,038	$ 249,061

The number of shares of our common stock to be outstanding after this offering set forth above excludes:

- 5,741,271 shares of our common stock issuable upon the exercise of stock options outstanding as of September 30, 2016 at a weighted-average exercise price of $42.51 per share;
- 483,185 shares of our common stock issuable upon the vesting of restricted stock units outstanding as of September 30, 2016;
- 1,705,917 shares of our common stock reserved for future issuance under our 2011 Plan, as of September 30, 2016, plus any annual increases in the number of shares of common stock reserved for future issuance under the 2011 Plan pursuant to an "evergreen provision" and any other shares that may become issuable under the 2011 Plan pursuant to its terms;
- 298,047 shares of our common stock reserved for future issuance under our ESPP, as of September 30, 2016, plus any annual increases in the number of shares of our common stock reserved for future issuance under the ESPP pursuant to an "evergreen provision" and any other shares that may become issuable under the ESPP pursuant to its terms; and
- 4,646,460 shares that may be issuable upon conversion of our 2.5% Convertible Senior Notes due 2021.

Table of Contents

PRICE RANGE OF COMMON STOCK

Our common stock is traded on the NASDAQ Global Select Market under the symbol "CLVS." Trading of our common stock commenced on November 16, 2011, following the completion of our initial public offering. The following table sets forth, for the periods indicated, the high and low sales prices for our common stock as reported on the NASDAQ Global Select Market:

	HIGH	LOW
Year Ended December 31, 2014		
First Quarter	$ 93.33	$58.18
Second Quarter	$ 72.48	$36.11
Third Quarter	$ 50.87	$35.33
Fourth Quarter	$ 62.20	$40.66
Year Ended December 31, 2015		
First Quarter	$ 83.46	$54.88
Second Quarter	$102.28	$68.40
Third Quarter	$116.75	$65.00
Fourth Quarter	$109.18	$24.50
Year Ended December 31, 2016		
First Quarter	$ 34.75	$16.78
Second Quarter	$ 20.90	$11.57
Third Quarter	$ 40.29	$13.43
Fourth Quarter	$ 46.97	$25.50
Year Ended December 31, 2017		
First Quarter (through January 3, 2017)	$ 43.70	$39.83

On January 3, 2017, the last reported sale price of our common stock on the NASDAQ Global Select Market was $42.95. On December 22, 2016, there were approximately 27 holders of record of our common stock.

Table of Contents

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted to the extent of the difference between the public offering price per share of our common stock and the as adjusted net tangible book value per share of our common stock upon completion of this offering. Net tangible book value per share of our common stock is determined at any date by subtracting our total liabilities from the amount of our total tangible assets (total assets less intangible assets and related tax effects) and dividing the difference by the number of shares of our common stock deemed to be outstanding at that date.

Our historical net tangible book value as of September 30, 2016 was approximately $(3.4) million, or $(0.09) per share, based on 38,582,755 shares of common stock outstanding as of September 30, 2016.

Investors participating in this offering will incur immediate, substantial dilution. After giving effect to our receipt of approximately $192.0 million of estimated net proceeds (after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us) from our sale of common stock in this offering, our as adjusted net tangible book value as of September 30, 2016 would have been $188.6 million, or $4.33 per share. This amount represents an immediate increase in net tangible book value of $4.42 per share of our common stock to existing stockholders and an immediate dilution in net tangible book value of $36.67 per share of our common stock to new investors purchasing shares of common stock in this offering.

The following table illustrates this dilution on a per share basis:

Public offering price per share	$41.00
Historical net tangible book value per share as of September 30, 2016	$ (0.09)
As adjusted increase in net tangible book value per share attributable to investors participating in this offering	$ 4.42
As adjusted net tangible book value per share after this offering	$ 4.33
Dilution of as adjusted net tangible book value per share to new investors	$36.67

The number of shares of our common stock to be outstanding immediately following this offering set forth above excludes:

- 5,741,271 shares of our common stock issuable upon the exercise of stock options outstanding as of September 30, 2016 at a weighted-average exercise price of $42.51 per share;
- 483,185 shares of our common stock issuable upon the vesting of restricted stock units outstanding as of September 30, 2016;
- 1,705,917 shares of our common stock reserved for future issuance under our 2011 Plan, as of September 30, 2016, plus any annual increases in the number of shares of common stock reserved for future issuance under the 2011 Plan pursuant to an “evergreen provision” and any other shares that may become issuable under the 2011 Plan pursuant to its terms;
- 298,047 shares of our common stock reserved for future issuance under our ESPP, as of September 30, 2016, plus any annual increases in the number of shares of our common stock reserved for future issuance under the ESPP pursuant to an “evergreen provision” and any other shares that may become issuable under the ESPP pursuant to its terms; and
- 4,646,460 shares that may be issuable upon conversion of our 2.5% Convertible Senior Notes due 2021.

If the underwriters’ option pursuant to this offering to purchase additional shares of our common stock is exercised in full, the as adjusted net tangible book value per share after giving effect to this offering would be

Table of Contents

$4.91 per share, which amount represents an immediate increase in as adjusted net tangible book value of $5.00 per share of our common stock to existing stockholders and an immediate dilution in net tangible book value of $36.09 per share of our common stock to new investors purchasing shares of common stock in this offering.

If all our outstanding stock options had been exercised, assuming the treasury stock method, all of our shares of common stock underlying our restricted stock units were issued and all of our convertible senior notes had been converted, in each case as of September 30, 2016, our as adjusted net tangible book value would have been $9.80 per share, representing dilution in our as adjusted net tangible book value per share to new investors of $31.20.

In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional capital by issuing equity securities or convertible debt, your ownership will be further diluted.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

The following summary describes our capital stock and the material provisions of our amended and restated certificate of incorporation and our amended and restated bylaws and the Delaware General Corporation Law. Because the following is only a summary, it does not contain all of the information that may be important to you. For a complete description, you should refer to our amended and restated certificate of incorporation and amended and restated bylaws, copies of which are on file with the SEC. See "Where You Can Find More Information."

General

Our amended and restated certificate of incorporation authorizes us to issue up to 100 million shares of common stock, par value $0.001 per share, and 10 million shares of preferred stock, par value $0.001 per share.

Common Stock

The holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders and are not entitled to cumulative votes with respect to the election of directors. The holders of common stock are entitled to receive dividends ratably, if, as and when dividends are declared from time to time by our board of directors out of legally available funds, after payment of dividends required to be paid on outstanding preferred stock, if any. Any decision to declare and pay dividends in the future will be made at the discretion of our board of directors and will depend on, among other things, our results of operations, cash requirements, financial condition, contractual restrictions and other factors that our board of directors may deem relevant. Upon our liquidation, dissolution or winding up, the holders of common stock are entitled to share ratably in all assets that are legally available for distribution after payment of all debts and other liabilities, subject to the prior rights of any holders of preferred stock then outstanding. The holders of common stock have no other preemptive, subscription, redemption, sinking fund or conversion rights. All outstanding shares of our common stock are fully paid and nonassessable. The shares of common stock to be issued upon closing of an offering will also be fully paid and nonassessable. The rights, preferences and privileges of holders of common stock are subject to, and may be negatively impacted by, the rights of the holders of shares of any series of preferred stock which we may designate and issue in the future.

As of September 30, 2016, 38,582,755 shares of our common stock were outstanding.

As of September 30, 2016, options to purchase 5,741,271 shares of our common stock at a weighted average exercise price of $42.51 per share were outstanding.

As of September 30, 2016, 483,185 shares of our common stock were issuable upon the vesting of restricted stock units outstanding.

Undesignated Preferred Stock

Under our amended and restated certificate of incorporation, our board of directors has the authority, without action by our stockholders, to designate and issue up to 10 million shares of preferred stock in one or more series and to designate the rights, preferences and privileges of each series, any or all of which may be greater than the rights of our common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock upon the rights of holders of our common stock until our board of directors determines the specific rights of the holders of preferred stock. However, the effects might include, among other things, restricting dividends on the common stock, diluting the voting power of the common stock, impairing the liquidation rights of the common stock and delaying or preventing a change in control of our common stock without further action by our stockholders and may adversely affect the market price of our common stock. As of September 30, 2016, no shares of our preferred stock were outstanding.

Table of Contents

Registration Rights

No holders of our securities are entitled to rights with respect to the registration of their securities under the Securities Act.

Anti-Takeover Provisions of Delaware Law

We are subject to Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder, unless the business combination or the transaction in which the person became an interested stockholder is approved in a prescribed manner. Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. Generally, an interested stockholder is a person who, together with affiliates and associates, owns or, in the case of affiliates or associates of the corporation, within three years prior to the determination of interested stockholder status, owned 15% or more of a corporation's voting stock. The existence of this provision could have anti-takeover effects with respect to transactions not approved in advance by our board of directors, such as discouraging takeover attempts that might result in a premium over the market price of our common stock. The foregoing provisions of the Delaware General Corporation Law may have the effect of deterring or discouraging hostile takeovers or delaying changes in control of our company.

Charter and Bylaws Anti-Takeover Provisions

Classified Board of Directors

Our amended and restated certificate of incorporation provides that our board of directors is divided into three classes of directors, with the number of directors in each class to be as nearly equal as possible. Our classified board of directors staggers terms of the three classes and has been implemented through one, two and three-year terms for the initial three classes, followed in each case by full three-year terms. With a classified board of directors, only one-third of the members of our board of directors is elected each year. This classification of directors has the effect of making it more difficult for stockholders to change the composition of our board of directors.

Size of Board of Directors and Removal of Directors

Our amended and restated certificate of incorporation and amended and restated bylaws provide that:

- the number of directors will be fixed from time to time exclusively pursuant to a resolution adopted by our board of directors, but must consist of not less than three directors, which will prevent stockholders from circumventing the provisions of our classified board of directors;
- directors may be removed only for cause; and
- vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum.

Authorized Preferred Stock

Our amended and restated certificate of incorporation provides for the issuance by our board of directors, without stockholder approval, of shares of preferred stock, with voting power, designations, preferences and other special rights as may be determined in the discretion of our board of directors. The issuance of preferred stock could decrease the amount of earnings and assets available for distribution to the holders of common stock or could adversely affect the rights and powers, including voting rights, of holders of common stock. In certain circumstances, such issuance could have the effect of decreasing the market price of the common stock. Preferred stockholders could also make it more difficult for a third party to acquire our company.

Table of Contents

No Stockholder Action by Written Consent

Our amended and restated certificate of incorporation and amended and restated bylaws require that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and may not be effected by a consent in writing.

Calling of Special Meetings of Stockholders

Our amended and restated bylaws provide that special stockholder meetings for any purpose may only be called by our board of directors, our chairman or our chief executive officer.

Advance Notice Requirements for Stockholder Proposals and Director Nominations

Our amended and restated bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of candidates for election to the board of directors. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the board of directors, or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting stock. These provisions also could discourage a third party from making a tender offer for our common stock, because even if it acquired a majority of our outstanding voting stock, it would be able to take action as a stockholder, such as electing new directors or approving a merger, only at a duly called stockholders meeting and not by written consent.

Limitation on Liability and Indemnification of Directors and Officers

Our amended and restated certificate of incorporation and amended and restated bylaws limit our directors' and officers' liability to the fullest extent permitted under Delaware corporate law. Specifically, our directors and officers are not liable to us or our stockholders for monetary damages for any breach of fiduciary duty by a director or officer, except for liability:

- for any breach of the director's or officer's duty of loyalty to us or our stockholders;
- for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- under Section 174 of the Delaware General Corporation Law (unlawful dividends or stock repurchases); or
- for any transaction from which a director or officer derives an improper personal benefit.

If the Delaware General Corporation Law is amended to authorize corporate action further eliminating or limiting the personal liability of directors or officers, then the liability of our directors or officers shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as so amended.

The provision regarding indemnification of our directors and officers in our amended and restated certificate of incorporation will generally not limit liability under state or federal securities laws.

Delaware law and our amended and restated certificate of incorporation and amended and restated bylaws provide that we will, in certain situations, indemnify any person made or threatened to be made a party to a proceeding by reason of that person's former or present official capacity with us against judgments, penalties, fines, settlements and reasonable expenses. Any person is also entitled, subject to certain limitations, to payment or reimbursement of reasonable expenses (including attorneys' fees and disbursements and court costs) in advance of the final disposition of the proceeding.

Table of Contents

We maintain a directors' and officers' insurance policy pursuant to which our directors and officers are insured against liability for actions taken in their capacities as directors and officers. We believe that these indemnification provisions and insurance are useful to attract and retain qualified directors and officers.

In addition, we have entered into indemnification agreements with each of our directors and named executive officers, which also provide, subject to certain exceptions, for indemnification for related expenses, including, among others, reasonable attorney's fees, judgments, fines and settlements incurred in any action or proceeding. Your investment may be adversely affected to the extent that, in a class action or direct suit, we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

Insofar as the foregoing provisions permit indemnification of directors, officers or persons controlling us for liability arising under the Securities Act, we have been informed that in the opinion of the SEC, this indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Transfer Agent and Registrar

Our transfer agent and registrar for our common stock is Continental Stock Transfer & Trust Company.

Listing

Our common stock is listed on the NASDAQ Global Select Market under the symbol "CLVS."

Table of Contents

MATERIAL U.S. FEDERAL INCOME AND ESTATE TAX CONSIDERATIONS

The following is a general discussion of the material U.S. federal income and estate tax consequences of the acquisition, ownership and disposition of our common stock, but is not a complete analysis of all the potential U.S. federal income and estate tax consequences relating thereto. Except where noted, this summary deals only with common stock that is purchased by a non-U.S. holder pursuant to this offering and is held as a capital asset by the non-U.S. holder. A "non-U.S. holder" means a person (other than a partnership) that is for U.S. federal income tax purposes any of the following:

- a nonresident alien individual;
- a corporation (or any other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of a jurisdiction other than the United States, any state thereof or the District of Columbia;
- an estate other than one the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust other than a trust if it (A) is subject to the primary supervision of a court within the United States and the control of one or more U.S. persons having the authority to control all substantial decisions of the trust, or (B) has a valid election in effect to be treated as a U.S. person.

If an entity treated as a partnership for U.S. federal income tax purposes holds common stock, the tax treatment of a partner will generally depend on the status of the partner and upon the activities of the partnership. Accordingly, partnerships that hold common stock and partners in such partnerships should consult their respective tax advisors with respect to the U.S. federal income and estate tax consequences of the ownership and disposition of common stock.

For purposes of this discussion, a "non-U.S. holder" does not include an individual who is present in the United States for 183 days or more in the taxable year of disposition (where certain other requirements are met) and is not otherwise a resident of the United States for U.S. federal income tax purposes. Such an individual is urged to consult his or her own tax advisor regarding the U.S. federal income and estate tax consequences of the ownership and disposition of common stock.

This discussion does not address all aspects of U.S. federal income and estate taxation that may be relevant in light of a non-U.S. holder's special tax status or special circumstances. U.S. expatriates, "controlled foreign corporations," "passive foreign investment companies," corporations that accumulate earnings to avoid U.S. federal income tax and investors that hold common stock as part of a hedge, straddle or conversion transaction are among those categories of potential investors that may be subject to special rules not covered in this discussion. This discussion does not address any U.S. federal tax consequences other than income and estate tax consequences or any tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction. Furthermore, the following discussion is based on current provisions of the Code, Treasury Regulations and administrative and judicial interpretations thereof, all as in effect on the date hereof, and all of which are subject to change, possibly with retroactive effect. Accordingly, each non-U.S. holder should consult its tax advisors regarding the U.S. federal, state, local and non-U.S. income, estate and other tax consequences of acquiring, holding and disposing of shares of our common stock.

THIS SUMMARY IS FOR GENERAL INFORMATION ONLY AND IS NOT TAX ADVICE. INVESTORS CONSIDERING THE PURCHASE OF OUR COMMON STOCK PURSUANT TO THIS OFFERING ARE ENCOURAGED TO CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE U.S. FEDERAL INCOME AND ESTATE TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE APPLICATION OF OTHER FEDERAL TAX LAWS, FOREIGN, STATE AND LOCAL LAWS, AND TAX TREATIES.

Table of Contents

Dividends

Distributions in cash or other property on our common stock will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and will first be applied against and reduce a holder's adjusted basis in the common stock, but not below zero, and then the excess, if any, will be treated as gain from the sale of common stock, as described below.

We do not intend to pay cash dividends on our common stock for the foreseeable future. In the event that we do make distributions on our common stock, subject to the discussion below on effectively connected income, amounts paid to a non-U.S. holder of common stock that are treated as dividends for U.S. federal income tax purposes generally will be subject to U.S. withholding tax at a rate of 30% of the gross amount of the dividends or such lower rate as may be specified by an applicable tax treaty. In order to receive a reduced treaty rate, a non-U.S. holder generally must provide a valid Internal Revenue Service, or IRS, Form W-8BEN-E or W-8BEN or other successor form certifying qualification for the reduced rate.

Dividends received by a non-U.S. holder that are effectively connected with a U.S. trade or business conducted by the non-U.S. holder (and, if required by an applicable income tax treaty, are attributable to a U.S. permanent establishment) are exempt from such withholding tax. In order to obtain this exemption, a non-U.S. holder must provide a valid IRS Form W-8ECI or other applicable form properly certifying such exemption. Such effectively connected dividends, although not subject to withholding tax, will generally be subject to regular U.S. federal income tax as if the non-U.S. holder were a U.S. resident, unless an applicable income tax treaty provides otherwise. A non-U.S. corporation receiving effectively connected dividends may also be subject to an additional "branch profits tax" imposed at a rate of 30% (or a lower treaty rate) on the earnings and profits attributable to its effectively connected income.

Gain on Disposition of Common Stock

A non-U.S. holder generally will not be subject to U.S. federal income tax on any gain realized upon the sale or other disposition of common stock unless:

- the gain is "effectively connected" with the non-U.S. holder's conduct of a trade or business in the United States (and, if required by an applicable income tax treaty, is attributable to a U.S. permanent establishment); or
- our common stock constitutes a U.S. real property interest by reason of our status as a U.S. real property holding corporation for U.S. federal income tax purposes.

Unless an applicable treaty provides otherwise, gain described in the first bullet point above generally will be subject to regular U.S. federal income tax as if the non-U.S. holder were a U.S. resident and, in the case of non-U.S. holders taxed as corporations, the branch profits tax described above.

Generally, a corporation is a U.S. real property holding corporation, or USRPHC, if the fair market value of its U.S. real property interests, as defined in the Code and applicable Treasury regulations, equals or exceeds 50% of the aggregate fair market value of its worldwide real property interests and its other assets used or held for use in a trade or business.

We believe that we are not, and currently do not anticipate becoming, a USRPHC. However, there can be no assurance that our current analysis is correct or that we will not become a USRPHC in the future. Even if we are or become a USRPHC, as long as our common stock is "regularly traded on an established securities market," within the meaning of applicable Treasury regulations, such common stock will be treated as U.S. real property interests only if the non-U.S. holder actually or constructively held more than 5% of such regularly traded common stock at some time during the shorter of the five year period preceding the disposition or the non-U.S. holder's holding period.

Table of Contents

Backup Withholding and Information Reporting

Information returns will be filed with the IRS in connection with payments of dividends and may be filed with the IRS in connection with the proceeds from a sale or other disposition of common stock. A non-U.S. holder may have to comply with certification procedures to establish that it is not a U.S. person in order to avoid certain information reporting and backup withholding requirements. The certification procedures required to claim a reduced rate of withholding under a treaty generally will satisfy the certification requirements necessary to avoid the backup withholding tax as well. The amount of any backup withholding from a payment to a non-U.S. holder will be allowed as a credit against its U.S. federal income tax liability and may entitle it to a refund, provided that the required information is timely furnished to the IRS. Copies of these information returns may also be made available under the provisions of a specific treaty or agreement to the tax authorities of the country in which the non-U.S. holder resides or is established.

U.S. Federal Estate Tax

Shares of common stock held (or deemed held) by an individual who is a non-U.S. holder at the time of his or her death will be included in such non-U.S. holder's gross estate for U.S. federal estate tax purposes, unless an applicable estate tax treaty provides otherwise.

Additional Withholding Requirements

Pursuant to Sections 1471 through 1474 of the Code, or FATCA, we may be required to withhold U.S. tax at the rate of 30% on payments of dividends and, beginning on January 1, 2019, gross proceeds from the sale or other taxable disposition of our common stock made to non-U.S. financial institutions and certain other foreign nonfinancial entities unless such foreign entities satisfy certain reporting requirements or certification requirements, unless a relevant exemption applies. Prospective holders of our common stock are encouraged to consult with their own tax advisors regarding the possible implications of this legislation on an investment in our common stock.

Table of Contents

UNDERWRITING

We are offering the shares of common stock described in this prospectus supplement through a number of underwriters. J.P. Morgan Securities LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated are acting as joint book-running managers of the offering and J.P. Morgan Securities LLC is acting as representative of each of the underwriters named below. We have entered into an underwriting agreement with the underwriters. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus supplement, the number of shares of common stock listed next to its name in the following table:

Name	Number of Shares
J.P. Morgan Securities LLC	2,400,000
Merrill Lynch, Pierce, Fenner & Smith Incorporated	1,900,000
Stifel, Nicolaus & Company, Incorporated	350,000
SunTrust Robinson Humphrey, Inc.	350,000
Total	5,000,000

The underwriters are committed to purchase all the common shares offered by us if they purchase any shares. The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may also be increased or the offering may be terminated.

The underwriters propose to offer the common shares directly to the public at the public offering price set forth on the cover page of this prospectus supplement and to certain dealers at that price less a concession not in excess of $1.4760 per share. After the initial public offering of the shares, the offering price and other selling terms may be changed by the underwriters. Sales of shares made outside of the United States may be made by affiliates of the underwriters.

The underwriters have an option to buy up to 750,000 additional shares of common stock from us. The underwriters have 30 days from the date of the underwriting agreement to exercise this option. If any shares of common stock are purchased with this option, the underwriters will purchase shares in approximately the same proportion as shown in the table above. If any additional shares of common stock are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

The underwriting fee is equal to the public offering price per share of common stock less the amount paid by the underwriters to us per share of common stock. The underwriting fee is $2.46 per share. The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	Without option exercise	With full option exercise
Per Share	$ 2.46	$ 2.46
Total	$12,300,000	$14,145,000

Pursuant to the terms of the underwriting agreement, we have agreed to reimburse the underwriters for certain expenses, including reasonable fees and expenses of counsel, relating to certain aspects of this offering in an amount up to $10,000. We estimate that the total expenses of this offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be approximately $0.7 million. The underwriters have agreed to reimburse us for certain of our expenses related to this offering.

Table of Contents

A prospectus in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

We have agreed, subject to limited exceptions, that we will not: (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, or file with the Securities and Exchange Commission a registration statement under the Securities Act relating to, any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock, or publicly disclose the intention to make any offer, sale, pledge, disposition or filing, or (2) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of any shares of our common stock or such other securities (regardless of whether any such transaction described in clause (1) or (2) above are to be settled by the delivery of shares of common stock, or such other securities, in cash or otherwise), in each case without the prior written consent of J.P. Morgan Securities LLC, for a period of 60 days after the date of this prospectus supplement.

Our directors and executive officers have entered into lock-up agreements with the underwriters prior to the commencement of this offering pursuant to which each of these persons, with limited exceptions, for a period of 60 days after the date of this prospectus supplement, may not, without the prior written consent of J.P. Morgan Securities LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated, (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or securities convertible into or exchangeable or exercisable for any shares of our common stock (including, without limitation, common stock which may be deemed to be beneficially owned by such directors and executive officers in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant), or publicly disclose the intention to make any offer, sale, pledge or disposition, (2) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of any shares of our common stock or such other securities (regardless of whether any such transaction described in clause (1) above or this clause (2) is to be settled by delivery of common stock or such other securities, in cash or otherwise), or (3) make any demand for or exercise any right with respect to the registration of any shares of our common stock or any security convertible into or exercisable or exchangeable for our common stock. Each of the lock-up agreements contains certain exceptions, including transfers of shares as a bona fide gift or by will or intestacy; transfers to certain entities or persons affiliated with the stockholder; transfers of shares to any trust, the sole beneficiaries of which are the transferor and/or its immediate family members; the establishment of any contract, instruction or plan complying with Rule 10b5-1 promulgated under the Exchange Act (provided that no sales pursuant to such newly-established contract, instruction or plan may occur prior to the expiration of the 60-day period referred to above); or transfers or sales pursuant to existing contracts, instructions or plans complying with Rule 10b5-1 promulgated under the Exchange Act that have been entered into prior to the date of the lock-up agreements; provided that in the case of each of the above (except transfers by will or intestacy or transfers or sales pursuant to a contract, instruction or plan complying with Rule 10b5-1 promulgated under the Exchange Act and certain gifts), each donee, distributee, transferee and recipient agrees to be subject to the restrictions described in this paragraph and no transaction includes a disposition for value.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act of 1933.

Our common stock is listed on the NASDAQ Global Select Market under the symbol “CLVS.”

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling shares of common stock in the open market for the purpose of preventing

Table of Contents

or retarding a decline in the market price of the common stock while this offering is in progress. These stabilizing transactions may include making short sales of the common stock, which involves the sale by the underwriters of a greater number of shares of common stock than they are required to purchase in this offering, and purchasing shares of common stock on the open market to cover positions created by short sales. Short sales may be "covered" shorts, which are short positions in an amount not greater than the underwriters' option referred to above, or may be "naked" shorts, which are short positions in excess of that amount. The underwriters may close out any covered short position either by exercising their option, in whole or in part, or by purchasing shares in the open market. In making this determination, the underwriters will consider, among other things, the price of shares available for purchase in the open market compared to the price at which the underwriters may purchase shares through the option. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market that could adversely affect investors who purchase in this offering. To the extent that the underwriters create a naked short position, they will purchase shares in the open market to cover the position.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act of 1933, they may also engage in other activities that stabilize, maintain or otherwise affect the price of the common stock, including the imposition of penalty bids. This means that if the representatives of the underwriters purchase common stock in the open market in stabilizing transactions or to cover short sales, the representatives can require the underwriters that sold those shares as part of this offering to repay the underwriting discount received by them.

These activities may have the effect of raising or maintaining the market price of the common stock or preventing or retarding a decline in the market price of the common stock, and, as a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If the underwriters commence these activities, they may discontinue them at any time. The underwriters may carry out these transactions on the NASDAQ Global Select Market, in the over-the-counter market or otherwise.

In addition, in connection with this offering certain of the underwriters (and selling group members) may engage in passive market making transactions in our common stock on the NASDAQ Global Select Market prior to the pricing and completion of this offering. Passive market making consists of displaying bids on the NASDAQ Global Select Market no higher than the bid prices of independent market makers and making purchases at prices no higher than these independent bids and effected in response to order flow. Net purchases by a passive market maker on each day are generally limited to a specified percentage of the passive market maker's average daily trading volume in the common stock during a specified period and must be discontinued when such limit is reached. Passive market making may cause the price of our common stock to be higher than the price that otherwise would exist in the open market in the absence of these transactions. If passive market making is commenced, it may be discontinued at any time.

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus supplement in any jurisdiction where action for that purpose is required. The shares of common stock offered by this prospectus supplement may not be offered or sold, directly or indirectly, nor may this prospectus supplement or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus supplement comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus supplement. This prospectus supplement does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus supplement in any jurisdiction in which such an offer or a solicitation is unlawful.

Table of Contents

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State"), with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State, no offer of shares described in this Prospectus Supplement may be made to the public in that Relevant Member State other than under the following exemptions in the Prospectus Directive:

A. to any legal entity which is a qualified investor as defined in the Prospectus Directive;

B. to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive) in such Relevant Member State, subject to obtaining the prior consent of the underwriters; or

C. in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of shares shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive and each person who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with us and each of the underwriters that it is a "qualified investor" within the meaning of the law in that Relevant Member State implementing Article 2(1)(e) of the Prospectus Directive.

In the case of any shares being offered to a financial intermediary as that term is used in Article 3(2) of the Prospectus Directive, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any shares to the public other than their offer or resale in a Relevant Member State to qualified investors as so defined or in circumstances in which the prior consent of their representative has been obtained to each such proposed offer or resale.

For the purposes of this provision, the expression an "offer of shares to the public" in relation to any shares in any Relevant Member State means the communication in any form and by means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase shares, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State. The expression "Prospectus Directive" means Directive 2003/71/EC (as amended, including by Directive 2010/73/EU), and includes any relevant implementing measure in the Relevant Member State.

Notice to Prospective Investors in the United Kingdom

In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the Prospectus Directive) (i) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "Order") and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons") or otherwise in circumstances which have not resulted and will not result in an offer to the public of the shares in the United Kingdom within the meaning of the Financial Services and Markets Act 2000.

Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons.

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of

Table of Contents

the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange ("SIX") or on any other stock exchange or regulated trading facility in Switzerland. This document does not constitute a prospectus within the meaning of, and has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, us, or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes ("CISA"). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in Australia

This prospectus supplement:

- does not constitute a product disclosure document or a prospectus under Chapter 6D.2 of the Corporations Act 2001 (Cth) (the "Corporations Act");
- has not been, and will not be, lodged with the Australian Securities and Investments Commission ("ASIC"), as a disclosure document for the purposes of the Corporations Act and does not purport to include the information required of a disclosure document under Chapter 6D.2 of the Corporations Act;
- does not constitute or involve a recommendation to acquire, an offer or invitation for issue or sale, an offer or invitation to arrange the issue or sale, or an issue or sale, of interests to a "retail client" (as defined in section 761G of the Corporations Act and applicable regulations) in Australia; and
- may only be provided in Australia to select investors who are able to demonstrate that they fall within one or more of the categories of investors, or Exempt Investors, available under section 708 of the Corporations Act.

The shares may not be directly or indirectly offered for subscription or purchased or sold, and no invitations to subscribe for or buy the shares may be issued, and no draft or definitive offering memorandum, advertisement or other offering material relating to any shares may be distributed in Australia, except where disclosure to

Table of Contents

investors is not required under Chapter 6D of the Corporations Act or is otherwise in compliance with all applicable Australian laws and regulations. By submitting an application for the shares, you represent and warrant to us that you are an Exempt Investor.

As any offer of shares under this document will be made without disclosure in Australia under Chapter 6D.2 of the Corporations Act, the offer of those securities for resale in Australia within 12 months may, under section 707 of the Corporations Act, require disclosure to investors under Chapter 6D.2 if none of the exemptions in section 708 applies to that resale. By applying for the shares you undertake to us that you will not, for a period of 12 months from the date of issue of the shares, offer, transfer, assign or otherwise alienate those securities to investors in Australia except in circumstances where disclosure to investors is not required under Chapter 6D.2 of the Corporations Act or where a compliant disclosure document is prepared and lodged with ASIC.

Notice to Prospective Investors in Japan

The shares have not been and will not be registered pursuant to Article 4, Paragraph 1 of the Financial Instruments and Exchange Act. Accordingly, none of the shares nor any interest therein may be offered or sold, directly or indirectly, in Japan or to, or for the benefit of, any "resident" of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to or for the benefit of a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Act and any other applicable laws, regulations and ministerial guidelines of Japan in effect at the relevant time.

Notice to Prospective Investors in Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Singapore

This prospectus supplement has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus supplement and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA"), (ii) to a relevant person pursuant to Section 275(1), or any person pursuant to Section 275(1A), and in accordance with the conditions specified in Section 275, of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

Table of Contents

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

(a) to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(b) where no consideration is or will be given for the transfer;

(c) where the transfer is by operation of law;

(d) as specified in Section 276(7) of the SFA; or

(e) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore.

Notice to Prospective Investors in China

This prospectus supplement does not constitute a public offer of the shares, whether by sale or subscription, in the People's Republic of China (the "PRC"). The shares are not being offered or sold directly or indirectly in the PRC to or for the benefit of, legal or natural persons of the PRC.

Further, no legal or natural persons of the PRC may directly or indirectly purchase any of the shares or any beneficial interest therein without obtaining all prior PRC's governmental approvals that are required, whether statutorily or otherwise. Persons who come into possession of this document are required by the issuer and its representatives to observe these restrictions.

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

Table of Contents

LEGAL MATTERS

The validity of shares of our common stock offered by this prospectus supplement will be passed upon for us by Willkie Farr & Gallagher LLP, New York, New York. Certain legal matters in connection with this offering will be passed upon for the underwriters by Latham & Watkins LLP, San Diego, California.

EXPERTS

The consolidated financial statements of Clovis Oncology, Inc. appearing in Clovis Oncology, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2015, and the effectiveness of Clovis Oncology, Inc.'s internal control over financial reporting as of December 31, 2015, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such financial statements are, and audited financial statements to be included in subsequently filed documents will be, incorporated herein in reliance upon the reports of Ernst & Young LLP pertaining to such financial statements and the effectiveness of our internal control over financial reporting as of the respective dates (to the extent covered by consents filed with the Securities and Exchange Commission) given on the authority of such firm as experts in accounting and auditing.

Table of Contents

Prospectus

COMMON STOCK

We may issue shares of our common stock from time to time in one or more offerings. This prospectus describes the general terms of our common stock and the general manner in which our common stock will be offered. We will describe the specific manner in which these shares will be offered in supplements to this prospectus, which may also supplement, update or amend information contained in this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. You should read this prospectus and any applicable prospectus supplement or free writing prospectuses before you invest.

We may offer our shares of common stock in amounts, at prices and on terms determined at the time of offering. The shares may be sold directly to you, through agents or through underwriters and dealers. If agents, underwriters or dealers are used to sell the shares, we will name them and describe their compensation in a prospectus supplement. In addition, selling stockholders to be named in a prospectus supplement may offer to sell shares of our common stock from time to time in one or more offerings. For additional information on the methods of sale, you should refer to the section entitled "Plan of Distribution" in this prospectus and in the applicable prospectus supplement.

Our common stock is listed on the NASDAQ Global Select Market under the symbol "CLVS." On December 30, 2016 the last reported sale price of our common stock on the NASDAQ Global Select Market was $44.42 per share.

Investing in our common stock involves risks. See "Risk Factors" on page 5 of this prospectus and any other risk factors included in any accompanying prospectus supplement and in the documents incorporated by reference in this prospectus or any prospectus supplement for a discussion of the factors you should carefully consider before deciding to purchase shares of our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

We or any selling stockholder may offer and sell these shares of our common stock to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis. The names of any underwriters or agents and the terms of the arrangements with such entities will be stated in an accompanying prospectus supplement.

The date of this prospectus is January 3, 2017

Table of Contents

TABLE OF CONTENTS

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using a "shelf" registration process. Under this shelf registration process, we or a selling stockholder may from time to time offer to sell shares of common stock in one or more offerings.

This prospectus provides you with a general description of our common stock. Each time we or a selling stockholder sell shares of our common stock, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement, or information incorporated by reference in this prospectus or any prospectus supplement that is of a more recent date, may also add, update or change information contained in this prospectus. To the extent that any statement that we make in a prospectus supplement is inconsistent with statements made in this prospectus, the statements made in this prospectus will be deemed modified or superseded by those made in the prospectus supplement. You should read both this prospectus and any applicable prospectus supplement, together with the additional information described below under the heading "Where You Can Find More Information." This prospectus may not be used to consummate a sale of our common stock unless it is accompanied by a prospectus supplement. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings.

You should rely only on the information contained in or incorporated by reference in this prospectus, any accompanying prospectus supplement or any related free writing prospectus filed by us with the SEC. We have not authorized anyone to provide you with different information. This prospectus and any accompanying prospectus supplement do not constitute an offer to sell or the solicitation of an offer to buy our common stock other than our common stock described in such accompanying prospectus supplement or an offer to sell or the solicitation of an offer to buy our common stock in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus, any prospectus supplement, the documents incorporated by reference and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

Clovis Oncology ®, the Clovis logo and Rubraca™ are trademarks of Clovis Oncology, Inc. in the United States and in other selected countries. All other brand names or trademarks appearing in this prospectus are the property of their respective holders. Unless the context requires otherwise, references in this prospectus to "Clovis," the "Company," "we," "us," and "our" refer to Clovis Oncology, Inc. together with its consolidated subsidiaries.

WHERE YOU CAN FIND MORE INFORMATION

We file reports and proxy statements with the SEC. These filings include our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and proxy statements on Schedule 14A, as well as any amendments to those reports and proxy statements, and are available free of charge through our website as soon as reasonably practicable after we file them with, or furnish them to, the SEC. Once at *www.clovisoncology.com*, go to Investors & News/SEC Filings to locate copies of such reports and proxy statements. Our website and the information contained on, or that can be accessed through, the website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus. You should not rely on any such information in making your decision whether to purchase our common stock. You may also read and copy materials that we file with SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website at *www.sec.gov* that contains reports, proxy and information statements and other information regarding us and other issuers that file electronically with the SEC.

Table of Contents

We have filed with the SEC a registration statement on Form S-3 under the Securities Act of 1933, as amended, relating to the shares of our common stock being offered by this prospectus. This prospectus, which constitutes part of that registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules which are part of the registration statement. For further information about us and the common stock offered, see the registration statement and the exhibits and schedules thereto. Statements contained in this prospectus regarding the contents of any contract or any other document to which reference is made are not necessarily complete, and, in each instance where a copy of a contract or other document has been filed as an exhibit to the registration statement, reference is made to the copy so filed, each of those statements being qualified in all respects by the reference.

INCORPORATION BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information we file with the SEC in other documents, which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede such information. We incorporate by reference the documents listed below and any future information filed (rather than furnished) with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, between the date of this prospectus and the date we terminate the offering, provided, however, that we are not incorporating any information furnished under Item 2.02 or Item 7.01 of any Current Report on Form 8-K:

- our Annual Report on Form 10-K for the year ended December 31, 2015, as filed with the SEC on February 29, 2016;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2016, as filed with the SEC on May 6, 2016, June 30, 2016, as filed with the SEC on August 9, 2016, and September 30, 2016, as filed with the SEC on November 4, 2016;
- our Definitive Proxy Statement on Schedule 14A, as filed with the SEC on April 27, 2016, and the additional definitive proxy soliciting materials, as filed with the SEC on April 27, 2016;
- our Current Reports on Form 8-K, as filed with the SEC on April 1, 2016, June 10, 2016, August 30, 2016, September 8, 2016 and October 4, 2016; and
- the description of our common stock contained in our registration statement on Form 8-A as filed with the SEC on November 10, 2011, including any amendments or reports filed for the purpose of updating the description.

We will furnish without charge to you a copy of any or all of the documents incorporated by reference, including exhibits to these documents, upon written or oral request. Direct your written request to: Investor Relations, Clovis Oncology, Inc., 5500 Flatiron Parkway, Suite 100, Boulder, Colorado 80301, or contact Investor Relations at (303) 625-5000.

A statement contained in a document incorporated by reference into this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, any prospectus supplement or in any other subsequently filed document which is also incorporated in this prospectus modifies or replaces such statement. Any statements so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

Table of Contents

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated herein by reference includes statements that are, or may be deemed, "forward-looking statements." In some cases, these forward-looking statements can be identified by the use of forward-looking terminology, including the terms "believes," "estimates," "anticipates," "expects," "plans," "intends," "may," "could," "might," "will," "should," "approximately" or, in each case, their negative or other variations thereon or comparable terminology, although not all forward-looking statements contain these words. They appear in a number of places throughout this prospectus and include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, our ongoing and planned non-clinical studies and clinical trials, the timing of and our ability to make regulatory filings and obtain and maintain regulatory approvals for our product candidates, the degree of clinical utility of our products, particularly in specific patient populations, expectations regarding clinical trial data, our results of operations, financial condition, liquidity, prospects, growth and strategies, the industry in which we operate and the trends that may affect the industry or us.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events, competitive dynamics, and industry change and depend on the economic circumstances that may or may not occur in the future or may occur on longer or shorter timelines than anticipated. We caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained herein.

Any forward-looking statements that we make in this prospectus speak only as of the date of such statement, and unless required by law, we undertake no obligation to update such statements to reflect events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events.

Please refer to the section entitled "Risk Factors" of this prospectus, and any other risk factors set forth in any accompanying prospectus supplement and in any information incorporated by reference in this prospectus or any accompanying prospectus supplement to better understand the risks and uncertainties inherent in our business and underlying any forward-looking statements, as well as any other risk factors and cautionary statements described in the documents we file from time to time with the SEC, specifically our most recent Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q and our Current Reports on Form 8-K.

ABOUT CLOVIS

We are a biopharmaceutical company focused on acquiring, developing and commercializing innovative anti-cancer agents in the United States, Europe and additional international markets. We target our development programs for the treatment of specific subsets of cancer populations, and simultaneously develop, with partners, diagnostic tools intended to direct a compound in development to the population that is most likely to benefit from its use. Our commercial product Rubraca™ (rucaparib) is an oral, small molecule poly ADP-ribose polymerase, or PARP, inhibitor of PARP1, PARP2 and PARP3 and was recently approved in the United States by the Food and Drug Administration, or FDA, as monotherapy for the treatment of patients with deleterious BRCA (human genes associated with the repair of damaged DNA) mutation (germline and/or somatic) associated advanced ovarian cancer, who have been treated with two or more chemotherapies, and selected for therapy based on an FDA-approved companion diagnostic for Rubraca. The Marketing Authorization Application, or MAA, submission with the European Medicines Agency, or EMA for a comparable ovarian cancer indication was accepted by the EMA during the fourth quarter of 2016. Additionally, rucaparib is being studied as a potential maintenance therapy in the ARIEL3 trial.

Table of Contents

According to the American Cancer Society, more than 22,000 women will be diagnosed with ovarian cancer in the U.S. during 2016. There are often no clearly identifiable initial symptoms, and in an estimated 80 to 85 percent of ovarian cancer cases, the cancer has spread to other parts of the body before a woman is diagnosed and can be treated, according to the American Cancer Society. An estimated one in four women with ovarian cancer has a germline or somatic BRCA mutation according to a recent article published in *Clinical Cancer Research* in 2014.

Rucaparib is also being explored in other solid tumor types with significant BRCA and BRCA-like populations (patients with tumors that have defective DNA repair function for reasons other than BRCA gene mutations, including those with high genomic loss of heterozygosity, or LOH), including prostate, breast, pancreatic, bladder, lung and gastroesophageal cancers. We hold worldwide rights for rucaparib. In June 2011, we obtained an exclusive, worldwide license from Pfizer to develop and commercialize rucaparib. U.S. Patent 6,495,541, and its equivalent counterparts issued or pending in dozens of countries, directed to the rucaparib composition of matter, expire in 2020 and are potentially eligible for up to five years' patent term extension in various jurisdictions. We believe that patent term extension under the Hatch-Waxman Act could be available to extend our patent exclusivity for rucaparib to at least the fourth quarter of 2023 in the United States. In Europe, we believe that patent term extension under a supplementary protection certificate could be available for an additional five years to at least 2025. In April 2012, we obtained an exclusive license from AstraZeneca under a family of patents and patent applications which will permit the development and commercialization of Rubraca for certain methods of treating patients with PARP inhibitors. Additionally other patents and patent applications directed to methods of making, methods of using, dosing regimens, various salt and polymorphic forms and formulations have expiration dates ranging from 2020 through potentially 2035, including the camsylate salt/polymorph patent family licensed from Pfizer, which expires in 2031.

We have built our organization to support innovative oncology drug development for the treatment of specific subsets of cancer populations. To implement our strategy, we have assembled an experienced team with core competencies in global clinical and non-clinical development, regulatory operations and commercialization in oncology, as well as conducting collaborative relationships with companies specializing in companion diagnostic development.

We were incorporated under the laws of the State of Delaware in April 2009. Our principal executive offices are located at 5500 Flatiron Parkway, Suite 100, Boulder, Colorado 80301, and our telephone number is (303) 625-5000. Our website address is *www.clovisoncology.com*. Our website and the information contained on, or that can be accessed through, the website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus. You should not rely on any such information in making your decision whether to purchase our common stock.

Table of Contents

RISK FACTORS

Investing in our common stock involves significant risks. Please see the risk factors under the heading "Risk Factors" in our most recently filed Annual Report on Form 10-K, as revised or supplemented by our Quarterly Reports on Form 10-Q filed with the SEC since the filing of our most recent Annual Report on Form 10-K, all of which are incorporated by reference in this prospectus. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus and any prospectus supplement. The risks and uncertainties we have described are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations.

USE OF PROCEEDS

Unless otherwise indicated in any applicable prospectus supplement, we intend to use the net proceeds from the sale of any shares of common stock offered under this prospectus for general corporate purposes, including funding of our development programs, commercial planning and sales and marketing expenses, general and administrative expenses, acquisition or licensing of additional product candidates or businesses and working capital. Pending these uses, we may invest the net proceeds in short-term, interest-bearing investment grade securities, certificates of deposit or direct or guaranteed obligations of the U.S. government. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds. Additional information on the use of net proceeds from any sale of shares of common stock offered under this prospectus may be set forth in the prospectus supplement relating to a specific offering. We will not receive any proceeds from sales by selling stockholders.

DILUTION

If there is a material dilution of the purchasers' equity interest from the sale of our common stock offered under this prospectus, we will set forth in any prospectus supplement the following information regarding any such material dilution of the equity interests of purchasers purchasing shares of our common stock in an offering under this prospectus:

- the net tangible book value per share of our common stock before and after the offering
- the amount of the increase in such net tangible book value per share attributable to the cash payments made by the purchasers in the offering; and
- the amount of the immediate dilution from the public offering price which will be absorbed by such purchasers.

DESCRIPTION OF CAPITAL STOCK

The following summary describes our capital stock and the material provisions of our amended and restated certificate of incorporation and our amended and restated bylaws and the Delaware General Corporation Law. Because the following is only a summary, it does not contain all of the information that may be important to you. For a complete description, you should refer to our amended and restated certificate of incorporation and amended and restated bylaws, copies of which are on file with the SEC. See "Where You Can Find More Information."

General

Our amended and restated certificate of incorporation authorizes us to issue up to 100 million shares of common stock, par value $0.001 per share, and 10 million shares of preferred stock, par value $0.001 per share.

Table of Contents

Common Stock

The holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders and are not entitled to cumulative votes with respect to the election of directors. The holders of common stock are entitled to receive dividends ratably, if, as and when dividends are declared from time to time by our board of directors out of legally available funds, after payment of dividends required to be paid on outstanding preferred stock, if any. Any decision to declare and pay dividends in the future will be made at the discretion of our board of directors and will depend on, among other things, our results of operations, cash requirements, financial condition, contractual restrictions and other factors that our board of directors may deem relevant. Upon our liquidation, dissolution or winding up, the holders of common stock are entitled to share ratably in all assets that are legally available for distribution after payment of all debts and other liabilities, subject to the prior rights of any holders of preferred stock then outstanding. The holders of common stock have no other preemptive, subscription, redemption, sinking fund or conversion rights. All outstanding shares of our common stock are fully paid and nonassessable. The shares of common stock to be issued upon closing of an offering will also be fully paid and nonassessable. The rights, preferences and privileges of holders of common stock are subject to, and may be negatively impacted by, the rights of the holders of shares of any series of preferred stock which we may designate and issue in the future.

As of September 30, 2016, 38,582,755 shares of our common stock were outstanding.

As of September 30, 2016, options to purchase 5,741,271 shares of our common stock at a weighted average exercise price of $42.51 per share were outstanding.

As of September 30, 2016, 483,185 shares of our common stock were issuable upon the vesting of restricted stock units outstanding.

Undesignated Preferred Stock

Under our amended and restated certificate of incorporation, our board of directors has the authority, without action by our stockholders, to designate and issue up to 10 million shares of preferred stock in one or more series and to designate the rights, preferences and privileges of each series, any or all of which may be greater than the rights of our common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock upon the rights of holders of our common stock until our board of directors determines the specific rights of the holders of preferred stock. However, the effects might include, among other things, restricting dividends on the common stock, diluting the voting power of the common stock, impairing the liquidation rights of the common stock and delaying or preventing a change in control of our common stock without further action by our stockholders and may adversely affect the market price of our common stock. As of September 30, 2016, no shares of our preferred stock were outstanding.

Registration Rights

No holders of our securities are entitled to rights with respect to the registration of their securities under the Securities Act.

Anti-Takeover Provisions of Delaware Law

We are subject to Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder, unless the business combination or the transaction in which the person became an interested stockholder is approved in a prescribed manner. Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. Generally, an interested stockholder is a person who, together

Table of Contents

with affiliates and associates, owns or, in the case of affiliates or associates of the corporation, within three years prior to the determination of interested stockholder status, owned 15% or more of a corporation's voting stock. The existence of this provision could have anti-takeover effects with respect to transactions not approved in advance by our board of directors, such as discouraging takeover attempts that might result in a premium over the market price of our common stock. The foregoing provisions of the Delaware General Corporation Law may have the effect of deterring or discouraging hostile takeovers or delaying changes in control of our company.

Charter and Bylaws Anti-Takeover Provisions

Classified Board of Directors

Our amended and restated certificate of incorporation provides that our board of directors is divided into three classes of directors, with the number of directors in each class to be as nearly equal as possible. Our classified board of directors staggers terms of the three classes and has been implemented through one, two and three-year terms for the initial three classes, followed in each case by full three-year terms. With a classified board of directors, only one-third of the members of our board of directors is elected each year. This classification of directors has the effect of making it more difficult for stockholders to change the composition of our board of directors.

Size of Board of Directors and Removal of Directors

Our amended and restated certificate of incorporation and amended and restated bylaws provide that:

- the number of directors will be fixed from time to time exclusively pursuant to a resolution adopted by our board of directors, but must consist of not less than three directors, which will prevent stockholders from circumventing the provisions of our classified board of directors;
- directors may be removed only for cause; and
- vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum.

Authorized Preferred Stock

Our amended and restated certificate of incorporation provides for the issuance by our board of directors, without stockholder approval, of shares of preferred stock, with voting power, designations, preferences and other special rights as may be determined in the discretion of our board of directors. The issuance of preferred stock could decrease the amount of earnings and assets available for distribution to the holders of common stock or could adversely affect the rights and powers, including voting rights, of holders of common stock. In certain circumstances, such issuance could have the effect of decreasing the market price of the common stock. Preferred stockholders could also make it more difficult for a third party to acquire our company.

No Stockholder Action by Written Consent

Our amended and restated certificate of incorporation and amended and restated bylaws require that any action required or permitted to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and may not be effected by a consent in writing.

Calling of Special Meetings of Stockholders

Our amended and restated bylaws provide that special stockholder meetings for any purpose may only be called by our board of directors, our chairman or our chief executive officer.

Table of Contents

Advance Notice Requirements for Stockholder Proposals and Director Nominations

Our amended and restated bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, including proposed nominations of candidates for election to the board of directors. Stockholders at an annual meeting may only consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the board of directors, or by a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has delivered timely written notice in proper form to our secretary of the stockholder's intention to bring such business before the meeting. These provisions could have the effect of delaying until the next stockholder meeting stockholder actions that are favored by the holders of a majority of our outstanding voting stock. These provisions also could discourage a third party from making a tender offer for our common stock, because even if it acquired a majority of our outstanding voting stock, it would be able to take action as a stockholder, such as electing new directors or approving a merger, only at a duly called stockholders meeting and not by written consent.

Limitation on Liability and Indemnification of Directors and Officers

Our amended and restated certificate of incorporation and amended and restated bylaws limit our directors' and officers' liability to the fullest extent permitted under Delaware corporate law. Specifically, our directors and officers are not liable to us or our stockholders for monetary damages for any breach of fiduciary duty by a director or officer, except for liability:

- for any breach of the director's or officer's duty of loyalty to us or our stockholders;
- for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- under Section 174 of the Delaware General Corporation Law (unlawful dividends or stock repurchases); or
- for any transaction from which a director or officer derives an improper personal benefit.

If the Delaware General Corporation Law is amended to authorize corporate action further eliminating or limiting the personal liability of directors or officers, then the liability of our directors or officers shall be eliminated or limited to the fullest extent permitted by the Delaware General Corporation Law, as so amended.

The provision regarding indemnification of our directors and officers in our amended and restated certificate of incorporation will generally not limit liability under state or federal securities laws.

Delaware law and our amended and restated certificate of incorporation and amended and restated bylaws provide that we will, in certain situations, indemnify any person made or threatened to be made a party to a proceeding by reason of that person's former or present official capacity with us against judgments, penalties, fines, settlements and reasonable expenses. Any person is also entitled, subject to certain limitations, to payment or reimbursement of reasonable expenses (including attorneys' fees and disbursements and court costs) in advance of the final disposition of the proceeding.

We maintain a directors' and officers' insurance policy pursuant to which our directors and officers are insured against liability for actions taken in their capacities as directors and officers. We believe that these indemnification provisions and insurance are useful to attract and retain qualified directors and officers.

In addition, we have entered into indemnification agreements with each of our directors and named executive officers, which also provide, subject to certain exceptions, for indemnification for related expenses, including, among others, reasonable attorney's fees, judgments, fines and settlements incurred in any action or proceeding. Your investment may be adversely affected to the extent that, in a class action or direct suit, we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

Table of Contents

Insofar as the foregoing provisions permit indemnification of directors, officers or persons controlling us for liability arising under the Securities Act, we have been informed that in the opinion of the SEC, this indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Transfer Agent and Registrar

Our transfer agent and registrar for our common stock is Continental Stock Transfer & Trust Company.

Listing

Our common stock is listed on the NASDAQ Global Select Market under the symbol "CLVS."

PLAN OF DISTRIBUTION

We and any selling stockholders may sell shares of our common stock from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods. Shares of our common stock may be sold separately or together:

- to or through one or more underwriters, brokers or dealers;
- through agents; and/or
- directly to one or more purchasers.

Shares of our common stock may be distributed from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

Any selling stockholders will act independently of us in making decisions with respect to the timing, manner and size of each sale of shares of our common stock being offered by this prospectus.

We may sell shares of our common stock directly to one or more purchasers, or to or through underwriters, dealers or agents or through a combination of those methods. The related prospectus supplement will set forth the terms of each offering, including:

- the name or names of any agents, dealers, underwriters or investors who purchase the shares of common stock;
- the purchase price of the shares of common stock being offered and the proceeds we will receive from the sale;
- the amount of any compensation, discounts, commissions or fees to be received by the underwriters, dealer or agents;
- any over-allotment options under which underwriters may purchase additional shares of common stock from us;
- any discounts or concessions allowed or reallowed or paid to dealers;
- any securities exchanges on which such shares of common stock may be listed;
- the terms of any indemnification provisions, including indemnification from liabilities under the federal securities laws; and

Table of Contents

- the nature of any transaction by an underwriter, dealer or agent during the offering that is intended to stabilize or maintain the market prices of the shares of common stock.

Offers to purchase shares of our common stock being offered by this prospectus may be solicited directly. In addition, agents to solicit offers to purchase shares of our common stock may be designated from time to time. Shares of our common stock being offered by this prospectus may be sold by any method permitted by law, including sales deemed to be an "at the market" offering as defined in Rule 415(a)(4) under the Securities Act, including without limitation sales made directly on the NASDAQ Global Select Market, on any other existing trading market for shares of our common stock or to or through a market maker. Any agent involved in the offer or sale of shares of our common stock will be named in a prospectus supplement.

If a dealer is utilized in the sale of shares of our common stock being offered by this prospectus, shares of our common stock will be sold to the dealer, as principal. The dealer may then resell shares of our common stock to the public at varying prices to be determined by the dealer at the time of resale.

If an underwriter is utilized in the sale of shares of our common stock being offered by this prospectus, an underwriting agreement will be executed with the underwriter at the time of sale and we will provide the name of any underwriter in the prospectus supplement that the underwriter will use to make resales of shares of our common stock to the public. In connection with the sale of shares of our common stock, we, any selling stockholders or the purchasers of shares of our common stock for whom the underwriter may act as agent may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell shares of our common stock to or through dealers, and the underwriter may compensate those dealers in the form of discounts, concessions or commissions.

The applicable prospectus supplement will provide any compensation paid to underwriters, dealers or agents in connection with the offering of shares of our common stock and any discounts, concessions or commissions allowed by underwriters to participating dealers. In compliance with guidelines of the Financial Industry Regulatory Authority, or FINRA, the maximum consideration or discount to be received by any FINRA member or independent broker dealer may not exceed 8% of the aggregate amount of shares of our common stock offered pursuant to this prospectus and any applicable prospectus supplement. Underwriters, dealers and agents participating in the distribution of shares of our common stock may be deemed to be underwriters within the meaning of the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of shares of our common stock may be deemed to be underwriting discounts and commissions. Agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof may be entered into. In the event that an offering made pursuant to this prospectus is subject to FINRA Rule 5121, the prospectus supplement will comply with the prominent disclosure provisions of that rule.

Shares of our common stock may or may not be listed on a national securities exchange. To facilitate the offering of shares of our common stock, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of shares of our common stock. This may include over-allotments or short sales of shares of our common stock, which involves the sale by persons participating in the offering of more shares of our common stock than were sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option. In addition, these persons may stabilize or maintain the price of shares of our common stock by bidding for or purchasing shares of our common stock in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if shares of our common stock sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of shares of our common stock at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

Table of Contents

Underwriters, dealers or agents may be authorized to solicit offers by certain purchasers to purchase shares of our common stock at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. The contracts will be subject only to those conditions set forth in the prospectus supplement, and the prospectus supplement will set forth any commissions paid for solicitation of these contracts.

Derivative transactions may be entered into with third parties, or shares of our common stock not covered by this prospectus may be sold to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with any derivative transaction, the third parties may sell shares of our common stock covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use shares of our common stock pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use shares of our common stock received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and will be identified in the applicable prospectus supplement or a post-effective amendment to the registration statement of which this prospectus is a part. In addition, shares of our common stock may be otherwise loaned or pledged to a financial institution or other third party that in turn may sell shares of our common stock short using this prospectus. Such financial institution or other third party may transfer its economic short position to investors in shares of our common stock or in connection with a concurrent offering of other securities.

The underwriters, dealers and agents may engage in transactions with us or any selling stockholders, or perform services for us or any selling stockholders, in the ordinary course of business.

LEGAL MATTERS

The validity of shares of our common stock offered by this prospectus will be passed upon for us by Willkie Farr & Gallagher LLP, New York, New York. If the validity of the shares of common stock is also passed upon by counsel for the underwriters of an offering of those shares of common stock, that counsel will be named in the prospectus supplement relating to that offering.

EXPERTS

The consolidated financial statements of Clovis Oncology, Inc. appearing in Clovis Oncology, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2015, and the effectiveness of Clovis Oncology, Inc.'s internal control over financial reporting as of December 31, 2015, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their reports thereon, included therein, and incorporated herein by reference. Such financial statements are, and audited financial statements to be included in subsequently filed documents will be, incorporated herein in reliance upon the reports of Ernst & Young LLP pertaining to such financial statements and the effectiveness of our internal control over financial reporting as of the respective dates (to the extent covered by consents filed with the Securities and Exchange Commission) given on the authority of such firm as experts in accounting and auditing.

Table of Contents

5,000,000 Shares

Common stock

Prospectus Supplement

J.P. Morgan **BofA Merrill Lynch**

Co-Managers

Stifel **SunTrust Robinson Humphrey**

January 3, 2017