Filed Pursuant to Rule 424(b)(5)
Registration No. 333-250054

PROSPECTUS

$75,000,000

Common Stock

We have entered into a sales agreement, or the sales agreement, with Cowen and Company, LLC, or Cowen, relating to shares of our common stock offered by this prospectus. In accordance with the terms of the sales agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to $75,000,000 from time to time through Cowen.

Our common stock is listed on The Nasdaq Global Select Market, or Nasdaq, under the symbol "OVID." On November 10, 2020, the last reported sale price of our common stock was $5.15 per share.

Sales of our common stock, if any, under this prospectus may be made in sales deemed to be an "at the market offering" as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended, or the Securities Act. Cowen is not required to sell any specific number or dollar amount of securities, but will act as a sales agent using commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between Cowen and us.

The compensation to Cowen for sales of common stock sold pursuant to the sales agreement will be equal to 3.0% of the gross proceeds of any shares of common stock sold under the sales agreement. In connection with the sale of the common stock on our behalf, Cowen will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of Cowen will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to Cowen with respect to certain liabilities, including liabilities under the Securities Act or the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" on page 6 of this prospectus and under similar headings in the other documents that are incorporated by reference into this prospectus.

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.

Cowen

The date of this prospectus is November 20, 2020.

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ABOUT THIS PROSPECTUS

This prospectus relates to the offering of our common stock. Before buying any of the common stock that we are offering, we urge you to carefully read this prospectus, together with the information incorporated by reference as described under the headings "Where You Can Find More Information" and "Incorporation of Certain Information by Reference" in this prospectus. These documents contain important information that you should consider when making your investment decision.

This prospectus describes the terms of this common stock offering and also adds to and updates information contained in the documents incorporated by reference herein. To the extent there is a conflict between the information contained in this prospectus and the information contained in any document incorporated by reference into this prospectus that was filed with the SEC before the date of this prospectus, you should rely on the information in this prospectus; provided that 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 into this prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in or incorporated by reference in this prospectus and in any free writing prospectus that we have authorized for use in connection with this offering. We have not, and the sales agent has not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the sales agent is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, the documents incorporated by reference in this prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering, is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus, the documents incorporated by reference in this prospectus, and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision.

Unless the context indicates otherwise, references in this prospectus to "Ovid," "the Company," "we," "us," "our" and similar references refer to Ovid Therapeutics Inc. and its wholly owned subsidiaries. Our name "Ovid Therapeutics" the Ovid logo, BoldMedicine and other trademarks, trade names or service marks of Ovid Therapeutics Inc. appearing in this prospectus are the property of Ovid Therapeutics Inc. All other trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus are referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert their rights thereto.

SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of our company and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus, including the information incorporated by reference in this prospectus, and the information included in any free writing prospectus that we have authorized for use in connection with this offering, including the information under the heading "Risk Factors" in this prospectus on page 6 and in the documents incorporated by reference into this prospectus.

Company Overview

We are a late-stage clinical biopharmaceutical company focused exclusively on developing impactful medicines for patients and families living with rare neurological disorders. We believe these disorders represent an attractive area for drug development as the understanding of the underlying biology has grown meaningfully over the last few years and only now is being appreciated by the industry. Our experienced team began with a vision to integrate the biology and symptomology of rare neurological conditions to employ innovative research and clinical strategies for the development of our drug candidates. Based on recent scientific advances in genetics and the biological pathways of the brain, we created a proprietary map of disease-relevant pathways and used it to identify and acquire novel compounds for the treatment of rare neurological disorders. We are also building a deep knowledge of the diseases and the clinically meaningful endpoints required for development of a compound in these rare neurological disorders. We continue to execute on our strategy by in-licensing and collaborating with leading biopharmaceutical companies and academic institutions. We have developed a robust pipeline of first-in-class and only-in-class clinical assets with an initial focus on neurodevelopmental disorders and developmental and epileptic encephalopathies, or DEE.

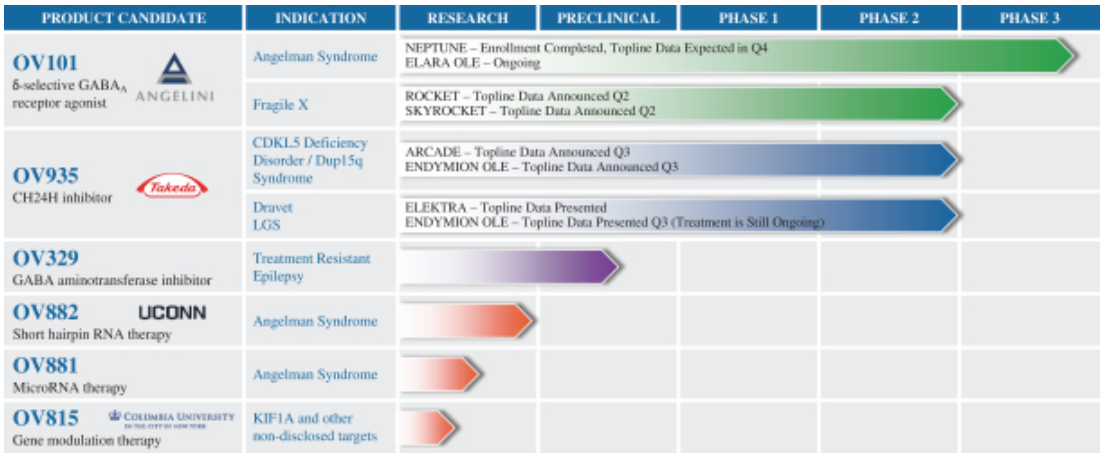
Our most advanced candidate is OV101 (gaboxadol), which is in clinical development for the treatment of Angelman syndrome and for the treatment of Fragile X syndrome. In June 2019, we initiated a pivotal Phase 3 clinical trial in OV101 for the treatment of Angelman syndrome, which we refer to as the NEPTUNE clinical trial. Enrollment was completed for the NEPTUNE trial in the third quarter of 2020, and we expect to report topline data in the fourth quarter of 2020. We also completed a Phase 2 trial evaluating OV101 in adolescent and young male adults with Fragile X syndrome, which we refer to as the ROCKET clinical trial. The U.S. Food and Drug Administration, or the FDA, granted orphan drug designation for OV101 for the treatment of Angelman syndrome in September 2016 and for the treatment of Fragile X syndrome in October 2017. The European Medicines Agency granted orphan designation for OV101 for the treatment of Angelman syndrome in June 2019.

On July 9, 2020, we entered into a collaboration and license agreement with Angelini Pharma Rare Diseases AG, or Angelini, pursuant to which we granted to Angelini exclusive rights to develop and commercialize OV101 for the treatment of Angelman syndrome in the European Economic Area as well as Switzerland, the United Kingdom, Russia and Turkey.

In addition, we are in a license and collaboration agreement with Takeda Pharmaceutical Company Limited, or Takeda, to jointly develop and commercialize TAK-935, and refer to as OV935 (soticlestat). We are initially studying OV935 for those suffering from severe and often intractable forms of DEE, including Dravet syndrome, Lennox-Gastaut syndrome, or LGS, and CDKL5 Deficiency Disorder, or CDD, and Duplication 15q, or Dup15q, syndrome. Each of these disorders either has limited or no therapeutic options. We and Takeda recently completed two clinical trials for OV935, the randomized Phase 2 ELEKTRA trial in Dravet syndrome and LGS and the open-label Phase 2 ARCADE trial in CDD and Dup15q and reported the results in August and September 2020. We also reported updated findings of the ongoing ENDYMION Phase 2 open-label extension study of OV935. The FDA granted orphan drug designation for OV935 for the treatment of Dravet syndrome and for the treatment of Lennox-Gastaut syndrome in December 2017.

Our Pipeline

The following table sets forth the status and mechanism of action of our drug candidates:



Risks Associated with Our Business

Our business is subject to numerous risks. You should read these risks before you invest in our securities. In particular, our risks include, but are not limited to, the following:

- We have incurred significant operating losses since inception and expect to continue to incur substantial operating losses for the foreseeable future.
- We have never generated any revenue from drug sales. Our operating history may make it difficult to evaluate the success of our business to date and to assess our future viability.
- We will require additional capital to finance our operations, which may not be available on acceptable terms, if at all. Failure to obtain this necessary capital when needed may force us to delay, limit or terminate certain of our drug development efforts or other operations.
- Our future success is dependent on the successful clinical development, regulatory approval and commercialization of our current and future drug candidates. If we, or our licensees, are not able to obtain required regulatory approvals, we will not be able to commercialize our drug candidates, and our ability to generate revenue will be adversely affected.
- Because the results of preclinical studies or earlier clinical trials are not necessarily predictive of future results, our drug candidates may not have favorable results in planned or future preclinical studies or clinical trials, or may not receive regulatory approval.
- Interim topline and preliminary results from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures, which could result in material changes in the final data.
- We may encounter substantial delays in our clinical trials or we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities.
- Angelman syndrome has no treatments approved by the FDA, and the primary clinical endpoint, CGI-I-AS, has not previously been used as a sole primary endpoint in a pivotal clinical trial.

- If we are not successful in discovering, developing and commercializing additional drug candidates, our ability to expand our business and achieve our strategic objectives would be impaired.
- Our drug candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial potential or result in significant negative consequences following any potential marketing approval.
- Even if our current or future drug candidates receive marketing approval, they may fail to achieve market acceptance by physicians, patients, third-party payors or others in the medical community necessary for commercial success.
- If we are unable to establish sales and marketing capabilities, or enter into agreements with third parties to market and sell our current or any future drug candidates, we may be unable to generate any revenue from drug sales.
- We are heavily dependent on our relationship with Takeda for the development and commercialization of OV935. Any disruption in our relationship with Takeda could lead to delays in, or the termination of, the development of OV935, which would materially harm our business.
- We are dependent on our relationship with Angelini for the development and commercialization of OV101 in the European Economic Area as well as Switzerland, the United Kingdom, Russia and Turkey. Any disruption in our relationship with Angelini could lead to delays in the development and achievement of regulatory approval in these countries, which would materially harm our business.
- We may be required to make significant payments in connection with our licenses of OV101 from H. Lundbeck A/S and OV935 from Takeda.
- Our relationships with customers, physicians, and third-party payors may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws, health information privacy and security laws, and other healthcare laws and regulations. If we are unable to comply, or have not fully complied, with such laws, we could face substantial penalties.
- Coverage and adequate reimbursement may not be available for our current or any future drug candidates, which could make it difficult for us to sell profitably, if approved.
- If we are unable to obtain and maintain patent protection for our current or any future drug candidates, or if the scope of the patent protection obtained is not sufficiently broad, we may not be able to compete effectively in our markets.
- We may be involved in lawsuits to protect or enforce our patents, the patents of our licensors or our other intellectual property rights, which could be expensive, time consuming and unsuccessful.
- We do not have our own manufacturing capabilities and will rely on third parties to produce clinical and commercial supplies of our current and any future drug candidates.
- We intend to rely on third parties to conduct, supervise and monitor our preclinical studies and clinical trials, and if those third parties perform in an unsatisfactory manner, it may harm our business.
- COVID-19 could adversely impact our business, including our clinical trials and access to capital.
- We will need to expand our organization, and we may experience difficulties in managing this growth, which could disrupt our operations.
- We may be subject to numerous and varying privacy and security laws, and our failure to comply could result in penalties and reputational damage.

Corporate Information

We were incorporated in Delaware in April 2014. Our principal executive offices are located at 1460 Broadway, Suite 15044, New York, New York 10036 and our telephone number is (646) 661-7661. Our common stock is listed on Nasdaq under the symbol "OVID." Our corporate website address is www.ovidrx.com. Information contained on or accessible through our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus.

Implications of Being an Emerging Growth Company and Smaller Reporting Company

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. An emerging growth company may take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to public companies. Some of these exemptions include:

- only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting; and
- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements.

We will remain an emerging growth company until the earlier of (1) December 31, 2022, (2) the last day of the fiscal year in which we have total annual gross revenue of at least $1.07 billion, (3) the last day of the fiscal year in which the market value of our common stock that is held by non-affiliates exceeds $700 million as of the prior June 30th, and (4) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period. We have chosen to take advantage of some but not all of these available exemptions. We have irrevocably elected not to avail ourselves of delayed adoption of new or revised accounting standards and, therefore, we will be subject to the same requirements to adopt new or revised accounting standards as other public companies that are not emerging growth companies.

In addition, we are also a smaller reporting company as defined in the Securities Exchange Act of 1934, as amended, or Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as (i) our voting and non-voting common stock held by non-affiliates is less than $250.0 million measured on the last business day of our second fiscal quarter or (ii) our annual revenue is less than $100.0 million during the most recently completed fiscal year and our voting and non-voting common stock held by non-affiliates is less than $700.0 million measured on the last business day of our second fiscal quarter.

THE OFFERING

Common Stock Offered By Us	Shares of our common stock having an aggregate offering price of up to $75,000,000.
Common Stock to be Outstanding After This Offering	Up to 77,998,328 shares (as more fully described in the notes following this table), assuming sales of 14,563,106 shares of our common stock in this offering at an offering price of $5.15 per share, the last reported sale price of our common stock on Nasdaq on November 10, 2020. The actual number of shares issued will vary depending on the sales price under this offering.
Manner of Offering	"At the market offering" that may be made from time to time through our sales agent, Cowen. See "Plan of Distribution" on page 18.
Use of Proceeds	We currently intend to use the net proceeds from this offering primarily to fund the research and development of our drug candidates, acquire or invest in businesses, products or technologies that are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions as of the date of this prospectus, and for working capital and general corporate purposes. See "Use of Proceeds" on page 10 of this prospectus.
Risk Factors	Investing in our common stock involves significant risks. See "Risk Factors" on page 6 of this prospectus, and under similar headings in other documents incorporated by reference into this prospectus.
Nasdaq Global Select Market symbol	"OVID"

The number of shares of our common stock to be outstanding immediately after this offering is based on 63,435,222 shares of our common stock outstanding as of September 30, 2020, and excludes:

- 8,577,914 shares of our common stock issuable upon the exercise of stock options outstanding as of September 30, 2020 under our 2014 Stock Plan, as amended, or 2014 Plan, and our 2017 Equity Incentive Plan, or 2017 Plan, at a weighted average exercise price of $5.70 per share;
- 3,649,226 shares of common stock reserved for future issuance under our 2017 Plan, plus any additional shares of our common stock that may become available under our 2017 Plan;
- 553,552 shares of our common stock reserved for issuance under our 2017 Employee Stock Purchase Plan, or ESPP, as well as any future increases in the number of shares of our common stock reserved for issuance under the ESPP; and
- 5,506,000 shares of our common stock issuable upon the conversion of 5,506 shares of our Series A convertible preferred stock, or the Series A preferred stock, outstanding as of September 30, 2020.

Except as otherwise indicated, the information in this prospectus assumes no exercise of the outstanding stock options and no conversion of the outstanding Series A preferred stock.

RISK FACTORS

An investment in our common stock involves a high degree of risk. Before deciding whether to invest in our common stock, you should carefully consider the risks described below and those discussed under the section titled "Risk Factors" contained in our Annual Report on Form 10-K for the year ended December 31, 2019 as updated by our annual, quarterly and other reports and documents that are incorporated by reference into this prospectus, before deciding whether to purchase any of the securities being registered pursuant to the registration statement of which this prospectus is a part. Each of the risk factors could adversely affect our business, results of operations, financial condition and cash flows, as well as adversely affect the value of an investment in our securities, and the occurrence of any of these risks might cause you to lose all or part of your investment. Such risks may be amplified by the COVID-19 pandemic and its potential impact on our business and the global economy. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations. Please also read carefully the section below titled "Special Note Regarding Forward-Looking Statements."

Risks Related to this Offering

Our management might apply the net proceeds from this offering in ways with which you do not agree and in ways that may impair the value of your investment.

We currently intend to use the net proceeds from this offering primarily to fund the development of our drug candidates and for working capital and general corporate purposes. We may also use the net proceeds from this offering for certain pre-commercialization activities and to acquire or invest in businesses, products or technologies that are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions as of the date of this prospectus. Pending the use of net proceeds from this offering as further described in the section titled "Use of Proceeds," we intend to invest the net proceeds in short-term, investment-grade, interest bearing obligations, certificates of deposit or direct or guaranteed obligations of the United States. Our management has broad discretion as to the use of these proceeds and you will be relying on the judgment of our management regarding the application of these proceeds. We might apply these proceeds in ways with which you do not agree, or in ways that do not yield a favorable return. If our management applies these proceeds in a manner that does not yield a significant return, if any, on our investment of these net proceeds, it could compromise our ability to pursue our growth strategy and adversely affect the market price of our common stock.

You may experience future dilution as a result of future equity offerings.

We will require more capital to pursue our preclinical and clinical activities, regulatory approval and the commercialization of our current or future drug candidates. In addition, we may also 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 raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in this offering.

It is not possible to predict the actual number of shares we will sell under the sales agreement, or the gross proceeds resulting from those sales.

Subject to certain limitations in the sales agreement and compliance with applicable law, we have the discretion to deliver instruction to Cowen to sell shares of our common stock at any time throughout the term of

the sales agreement. The number of shares that are sold through Cowen after our instruction will fluctuate based on a number of factors, including the market price of our common stock during the sales period, the limits we set with Cowen in any instruction to sell shares, and the demand for our common stock during the sales period. Because the price per share of each share sold will fluctuate during this offering, it is not currently possible to predict the number of shares that will be sold or the gross proceeds to be raised in connection with those sales.

The common stock offered hereby will be sold in "at the market offerings," and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and so may experience different levels of dilution and different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold in this offering. In addition, subject to the final determination by our board of directors, there is no minimum or maximum sales price for shares to be sold in this offering. Investors may experience a decline in the value of the shares they purchase in this offering as a result of sales made at prices lower than the prices they paid.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference contain forward-looking statements. These are based on our management's current beliefs, expectations and assumptions about future events, conditions and results and on information currently available to us. Discussions containing these forward-looking statements may be found, among other places, in the sections titled "Business," "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" incorporated by reference from our most recent Annual Report on Form 10-K and our Quarterly Reports on Form 10-Q, as well as any amendments thereto, filed with the SEC.

In some cases, you can identify forward-looking statements by terminology such as "anticipate," "believe," "could," "estimate," "expects," "intend," "may," "plan," "potential," "predict," "project," "should," "will," "would" or the negative or plural of those terms, and similar expressions intended to identify statements about the future, although not all forward-looking statements contain these words. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements.

Any statements in this prospectus, or incorporated herein, about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and are forward-looking statements. Within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act, these forward-looking statements include statements regarding:

- statements regarding the impact of the COVID-19 pandemic and its effects on our operations, access to capital, research and development and clinical trials and potential disruption in the operations and business of third-party manufacturers, contract research organizations other service providers, and collaborators with whom we conduct business;
- the initiation, timing, progress and results of our current and future preclinical studies and clinical trials and our research and development programs;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- our ability to identify additional novel compounds with significant commercial potential to acquire or in-license;
- our ability to successfully acquire or in-license additional drug candidates on reasonable terms;
- our ability to obtain regulatory approval of our current and future drug candidates;
- our expectations regarding the potential market size and the rate and degree of market acceptance of such drug candidates;
- our ability to fund our working capital requirements;
- the implementation of our business model and strategic plans for our business and drug candidates;
- developments or disputes concerning our intellectual property or other proprietary rights;
- our ability to maintain and establish collaborations or obtain additional funding;
- our expectations regarding government and third-party payor coverage and reimbursement;
- our ability to compete in the markets we serve;
- the impact of government laws and regulations;
- developments relating to our competitors and our industry; and
- the factors that may impact our financial results.

You should refer to the "Risk Factors" section contained in this prospectus and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus, for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. Given these risks, uncertainties and other factors, many of which are beyond our control, we cannot assure you that the forward-looking statements in this prospectus will prove to be accurate, and you should not place undue reliance on these forward-looking statements. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to revise any forward-looking statements to reflect events or developments occurring after the date of this prospectus, even if new information becomes available in the future.

USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate sales proceeds of up to $75.0 million from time to time. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. There can be no assurance that we will sell any shares under or fully utilize the sales agreement with Cowen as a source of financing.

We currently intend to use the net proceeds from this offering primarily for fund the research and development of our drug candidates, acquire or invest in businesses, products or technologies that are complementary to our own, although we have no current plans, commitments or agreements with respect to any acquisitions as of the date of this prospectus, and for working capital and general corporate purposes. Pending the use of net proceeds, we intend to invest the net proceeds in short-term, investment-grade, interest bearing obligations, certificates of deposit or direct or guaranteed obligations of the United States.

DILUTION

Our net tangible book value as of September 30, 2020 was $63.3 million, or $1.00 per share. Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of September 30, 2020. Dilution with respect to net tangible book value per share represents the difference between the amount per share paid by investors purchasing shares of common stock in this offering and the net tangible book value per share of our common stock immediately after this offering.

After giving effect to the sale of $75,000,000 of shares of our common stock in this offering at an assumed offering price of $5.15 per share, the last reported sale price of our common stock on Nasdaq on November 10, 2020, and after deducting commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2020 would have been approximately $135.7 million, or $1.74 per share. This represents an immediate increase in net tangible book value of $0.74 per share to existing stockholders and immediate dilution in net tangible book value of $3.41 per share to investors purchasing our common stock in this offering. The following table illustrates this dilution on a per share basis:

Assumed public offering price per share		$5.15
Net tangible book value per share of as September 30, 2020	$1.00	
Increase in net tangible book value per share attributable to this offering	$0.74	
As adjusted net tangible book value per share as of September 30, 2020, after giving effect to this offering		$1.74
Dilution per share to new investors		$3.41

The above discussion and table are based on 63,435,222 shares of our common stock outstanding as of September 30, 2020, and excludes:

- 8,577,914 shares of our common stock issuable upon the exercise of stock options outstanding as of September 30, 2020 under our 2014 Plan and our 2017 Plan, at a weighted average exercise price of $5.70 per share;
- 3,649,226 shares of common stock reserved for future issuance under our 2017 Plan, plus any additional shares of our common stock that may become available under our 2017 Plan;
- 553,552 shares of our common stock reserved for issuance under our ESPP, as well as any future increases in the number of shares of our common stock reserved for issuance under the ESPP; and
- 5,506,000 shares of our common stock issuable upon the conversion of 5,506 shares of our Series A convertible preferred stock, or the Series A preferred stock, outstanding as of September 30, 2020.

The above illustration of dilution per share to investors participating in this offering assumes no exercise of outstanding options to purchase our common stock and no conversion of the outstanding Series A preferred stock. To the extent that outstanding options outstanding as of September 30, 2020 have been or may be exercised or other shares of common stock are issued, including shares of our common stock issuable upon conversion of our outstanding Series A preferred stock, investors purchasing our common stock in this offering may experience further dilution.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock and provisions of our amended and restated certificate of incorporation and amended and restated bylaws are summaries. You should also refer to the amended and restated certificate of incorporation and the amended and restated bylaws, which are filed as exhibits to the registration statement of which this prospectus is part.

General

Under our amended and restated certificate of incorporation we are authorized to issue up to 125,000,000 shares of common stock, par value $0.001 per share, and 10,000,000 shares of preferred stock, par value $0.001 per share. Our board of directors has designated 10,000 shares of preferred stock as Series A Convertible Preferred Stock, or Series A Preferred Stock, and may establish the rights and preferences of other series of preferred stock from time to time.

Common Stock

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders. The affirmative vote of holders of at least 66 2/3% of the voting power of all of the then-outstanding shares of capital stock, voting as a single class, will be required to amend certain provisions of our amended and restated certificate of incorporation, including provisions relating to amending our amended and restated bylaws, the classified board, the size of our board, removal of directors, director liability, vacancies on our board, special meetings, stockholder notices, actions by written consent and exclusive jurisdiction.

Dividends

Subject to preferences that may apply to any outstanding preferred stock, holders of our common stock are entitled to receive ratably any dividends that our board of directors may declare out of funds legally available for that purpose on a non-cumulative basis.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preference of any outstanding preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of our preferred stock that we may designate in the future.

Series A Convertible Preferred Stock

Our board of directors has designated 10,000 shares of preferred stock as Series A Preferred Stock. The following summary of certain terms and provisions of our Series A Preferred Stock is subject to, and qualified in its entirety by reference to, the terms and provisions set forth in our certificate of designation of preferences, rights and limitations of Series A Preferred Stock.

Rank

The Series A Preferred Stock ranks senior to all of our common stock.

Conversion

Each share of the Series A Preferred Stock is convertible into 1,000 shares of our common stock (subject to adjustment as provided in the related certificate of designation of preferences rights and limitations) at any time at the option of the holder, provided that the holder will be prohibited, subject to certain exceptions, from converting Series A Preferred Stock into shares of our common stock if, as a result of such conversion, the holder, together with its affiliates, would own more than, at the written election of the holder, either 9.99% or 14.99% of the total number of shares of our common stock then issued and outstanding, which percentage may be changed at the holder's election to any other number less than or equal to 19.99% upon 61 days' notice to us; *provided*, *however*, that effective 61 days after delivery of such notice, such beneficial ownership limitations shall not be applicable to any holder that beneficially owns at least either 10.0% or 15.0%, as applicable based on the holder's initial written election noted above, of the total number of shares of our common stock issued and outstanding immediately prior to delivery of such notice.

Liquidation Preference

In the event of our liquidation, dissolution or winding up, holders of the Series A Preferred Stock will receive a payment equal to $0.001 per share of Series A Preferred Stock before any proceeds are distributed to the holders of our common stock.

Fundamental Transaction

Upon consummation of a Fundamental Transaction (as defined below) pursuant to which holders of shares of our common stock are entitled to receive securities, cash or property, then upon any subsequent conversion of the Series A Preferred Stock, the holder thereof shall have the right to receive, in lieu of the right to receive the shares of our common stock underlying the Series A Preferred Stock, for each share of common stock that it would have otherwise been entitled to receive upon such conversion immediately prior to the occurrence of such Fundamental Transaction, the same kind and amount of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of one share of our common stock. If holders of our common stock are given a choice as to the securities, cash or property to be received in a Fundamental Transaction, then the holder of the Series A Preferred Stock shall be given the same choice as to the consideration it receives upon any exercise of the Series A Preferred Stock following such Fundamental Transaction.

A "Fundamental Transaction" means:

- we effect any merger or consolidation with or into another person or any stock sale to, or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, share exchange or scheme of arrangement) with or into another person (other than such a transaction in which we are the surviving or continuing entity and our common stock is not exchanged for or converted into other securities, cash or property);
- we effect any sale of all or substantially all of our assets in one transaction or a series of related transactions;
- any tender offer or exchange offer (whether by us or another person) is completed pursuant to which more than 50% of the common stock not held by us or such person is exchanged for or converted into other securities, cash or property; or
- we effect any reclassification of our common stock or any compulsory share exchange pursuant (other than specified dividends, subdivisions or combinations) to which our common stock is effectively converted into or exchanged for other securities, cash or property.

Voting Rights

Shares of Series A Preferred Stock will generally have no voting rights, except as required by law and except that the consent of the holders of a majority of the outstanding shares of Series A Preferred Stock will be required to amend the terms of the Series A Preferred Stock.

Dividends

Shares of Series A Preferred Stock will be entitled to receive dividends at a rate equal to (on an as-if-converted-to-common stock basis), and in the same form and manner as, dividends actually paid on shares of common stock.

Redemption

We are not obligated to redeem or repurchase any shares of Series A Preferred Stock. Shares of Series A Preferred Stock are not otherwise entitled to any redemption rights or mandatory sinking fund or analogous fund provisions.

Registration Rights

Certain holders of shares of our common stock have the right to demand that we file a registration statement or request that we cover their shares by a registration statement that we otherwise file, as described below.

Demand Registration Rights

The holders of at least 75% of the shares having demand registration rights may, on not more than one occasion, request that we register all or a portion of their shares of common stock for sale under the Securities Act, subject to certain specified exceptions. Such request for registration must cover at least 75% of the registrable securities then outstanding for an aggregate offering price equal or greater than $25.0 million and a price per share equal to at least $26.79. In addition, holders of at least 25% of the shares having demand registration rights may, on no more than two registrations on Form S-3 within any 12-month period, request that we register all or a portion of their common stock for sale under the Securities Act on Form S-3, or any successor form, subject to specific exceptions, so long as the aggregate offering price to the public in connection with any such offering is more than $25.0 million.

Incidental Registration Rights

If we propose to register any shares of our common stock under the Securities Act either for our own account or for the account of other stockholders, the holders of all shares having piggyback registration rights are entitled to notice of the registration and to include all or a portion of their shares of common stock in the registration.

Other Provisions

In the event that any registration in which the holders of registrable shares participate pursuant to the investors' rights agreement is an underwritten public offering, the number of registrable shares to be included may, in specified circumstances, be limited due to market conditions.

We will pay all registration expenses, other than underwriting discounts, selling commissions and stock transfer taxes, and the reasonable fees and expenses of a single special counsel for the selling stockholders, related to any demand, piggyback and Form S-3 registration. The investors' rights agreement contains customary cross-indemnification provisions, pursuant to which we must indemnify the selling stockholders in the event of material misstatements or omissions in the registration statement attributable to us, and they must indemnify us for material misstatements or omissions in the registration statement attributable to them.

The demand, piggyback and Form S-3 registration rights described above will expire no later than five years after our initial public offering, or with respect to any particular holder, at such time that such holder can sell its shares under Rule 144 of the Securities Act during any three-month period.

Anti-Takeover Provisions

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the DGCL, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder, those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a "business combination" to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the entity or person's affiliates and associates, beneficially owns, or is an affiliate or associate of the corporation and within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Among other things, our amended and restated certificate of incorporation and amended and restated bylaws:

- permit our board of directors to issue up to 10,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate, including the right to approve an acquisition or other change in control;

- provide that the authorized number of directors may be changed only by resolution of our board of directors;
- provide that our board of directors are classified into three classes of directors;
- provide that, subject to the rights of any series of preferred stock to elect directors, directors may only be removed for cause, which removal may be effected, subject to any limitation imposed by law, by the holders of at least a majority of the voting power of all of our then-outstanding shares of the capital stock entitled to vote generally at an election of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent or electronic transmission;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing, and also specify requirements as to the form and content of a stockholder's notice;
- provide that special meetings of our stockholders may be called only by the chairman of our board of directors, our chief executive officer or president or by our board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors; and
- not provide for cumulative voting rights, therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose.

The amendment of any of these provisions would require approval by the holders of at least 66 2/3% of the voting power of all of our then-outstanding common stock entitled to vote generally in the election of directors, voting together as a single class.

The combination of these provisions will make it more difficult for our existing stockholders to replace our board of directors as well as for another party to obtain control of us by replacing our board of directors. Because our board of directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our board of directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce our vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of delaying changes in our control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts. We believe that the benefits of these provisions, including increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure our company, outweigh the disadvantages of discouraging takeover proposals, because negotiation of takeover proposals could result in an improvement of their terms.

Choice of Forum

Our amended and restated certificate of incorporation provides that unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall (or, if and only if the

Court of Chancery of the State of Delaware lacks subject matter jurisdiction, any state court located within the State of Delaware or, if and only if all such state courts lack subject matter jurisdiction, the federal district court for the District of Delaware), the Court of Chancery of the State of Delaware will be the exclusive forum for (1) any derivative action or proceeding brought on our behalf, (2) any action or proceeding commenced by any of our stockholders (including any class action) asserting a breach of fiduciary duty owed, or other wrongdoing, by any director, officer, employee or agent to us or our stockholders, (3) any action or proceeding commenced by any of our stockholders (including any class action) asserting a claim against us arising pursuant to the DGCL, our amended and restated certificate of incorporation or our amended and restated bylaws, (4) any action or proceeding commenced by any of our stockholders (including any class action) to interpret, apply, enforce or determine the validity of our amended and restated certificate of incorporation or our amended and restated bylaws, or (5) any action or proceeding commenced by any of our stockholders (including any class action) asserting a claim against us that is governed by the internal affairs doctrine. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with one or more actions or proceedings described above, a court could find the choice of forum provisions contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock and Series A preferred stock is Computershare Trust Company, N.A. The transfer agent's address is P.O. Box 30170, College Station, Texas 77842-3170.

Listing on The Nasdaq Global Select Market

Our common stock is listed on Nasdaq under the symbol "OVID." There is no established public trading market for the Series A preferred stock, and we do not expect a market to develop. We do not plan on making an application to list the Series A preferred stock on Nasdaq, any securities exchange or any recognized trading system.

PLAN OF DISTRIBUTION

We have entered into a sales agreement with Cowen, under which we may issue and sell from time to time up to $75,000,000 of our common stock through Cowen as our sales agent. Sales of our common stock, if any, will be made at market prices by any method that is deemed to be an "at the market offering" as defined in Rule 415(a)(4) under the Securities Act, including sales made directly on Nasdaq or any other trading market for our common stock. If authorized by us in writing, Cowen may purchase shares of our common stock as principal.

Cowen will offer our common stock subject to the terms and conditions of the sales agreement on a daily basis or as otherwise agreed upon by us and Cowen. We will designate the maximum amount of common stock to be sold through Cowen on a daily basis or otherwise determine such maximum amount together with Cowen. Subject to the terms and conditions of the sales agreement, Cowen will use its commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us. We may instruct Cowen not to sell common stock if the sales cannot be effected at or above the price designated by us in any such instruction. Cowen or we may suspend the offering of our common stock being made through Cowen under the sales agreement upon proper notice to the other party. Cowen and we each have the right, by giving written notice as specified in the sales agreement, to terminate the sales agreement in each party's sole discretion at any time.

The aggregate compensation payable to Cowen as sales agent equals 3.0% of the gross sales price of the shares sold through it pursuant to the sales agreement. In addition, we have agreed to reimburse Cowen for fees and disbursements related to its legal counsel in an amount not to exceed $50,000, and for certain other expenses, including Cowen's FINRA counsel fees in an amount up to $10,000. We estimate that the total expenses of the offering payable by us, excluding commissions payable to Cowen under the sales agreement, will be approximately $315,000.

The remaining sales proceeds, after deducting any expenses payable by us and any transaction fees imposed by any governmental, regulatory, or self-regulatory organization in connection with the sales, will equal our net proceeds for the sale of such common stock.

Cowen will provide written confirmation to us following the close of trading on Nasdaq on each day in which common stock is sold through it as sales agent under the sales agreement. Each confirmation will include the number of shares of common stock sold through it as sales agent on that day, the volume weighted average price of the shares sold, the percentage of the daily trading volume and the net proceeds to us.

We will report at least quarterly the number of shares of common stock sold through Cowen under the sales agreement, the net proceeds to us and the compensation paid by us to Cowen in connection with the sales of common stock.

Settlement for sales of common stock will occur, unless the parties agree otherwise or otherwise required by law, on the third business day that is also a trading day following the date on which any sales were made in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

In connection with the sales of our common stock on our behalf, Cowen will be deemed to be an "underwriter" within the meaning of the Securities Act, and the compensation paid to Cowen will be deemed to be underwriting commissions or discounts. We have agreed in the sales agreement to provide indemnification and contribution to Cowen against certain liabilities, including liabilities under the Securities Act. As sales agent, Cowen will not engage in any transactions that stabilizes our common stock.

Our common stock is listed on Nasdaq and trades under the symbol "OVID." The transfer agent of our common stock is Computershare Trust Company, N.A.

Cowen and/or its affiliates have provided, and may in the future provide, various investment banking and other financial services for us for which services they have received and, may in the future receive, customary fees.

LEGAL MATTERS

Cooley LLP, Palo Alto, California, will pass upon the validity of the issuance of the shares being sold in this offering. Certain legal matters related to this offering will be passed upon for the sales agent by Goodwin Procter LLP, New York, New York.

EXPERTS

The consolidated financial statements of Ovid Therapeutics Inc. as of December 31, 2019 and 2018, and for each of the years in the two-year period ended December 31, 2019, have been incorporated by reference herein in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of the registration statement on Form S-3 we filed with the SEC under the Securities Act and does not contain all of the information set forth in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus for a copy of such contract, agreement or other document. Because we are subject to the information and reporting requirements of the Exchange Act, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at http://www.sec.gov. We maintain a website at www.ovidrx.com. Information contained in or accessible through our website does not constitute a part of this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The SEC file number for the documents incorporated by reference in this prospectus is 001-38085. The documents incorporated by reference into this prospectus contain important information that you should read about us.

The following documents are incorporated by reference into this document:

- our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 11, 2020;
- the information specifically incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2019 from our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 24, 2020;
- our Quarterly Reports on Form 10-Q for the quarter ended March 31, 2020 filed with the SEC on May 7, 2020, the quarter ended June 30, 2020, filed with the SEC on August 10, 2020, and the quarter ended September 30, 2020, filed with the SEC on November 13, 2020;
- our Current Reports on Form 8-K filed with the SEC on January 7, 2020, March 30, 2020, May 7, 2020, June 5, 2020, June 19, 2020, July 13, 2020, August 25, 2020, August 26, 2020 and September 30, 2020, to the extent the information in such reports is filed and not furnished; and
- the description of our common stock contained in our Registration Statement on Form 8-A, filed with the SEC on May 4, 2017, including any amendments or reports filed for the purposes of updating this description.

We also incorporate by reference into this prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to effectiveness of the registration statement, or (ii) after the date of this prospectus but prior to the termination of the offering. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

You can request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

Ovid Therapeutics Inc.
Attn: Secretary
1460 Broadway, 15044
New York, NY 10036
(646) 701-5169

$75,000,000

Common Stock

PROSPECTUS

Cowen

November 20, 2020