



Idera Pharmaceuticals, Inc.

Up to \$8,000,000
Common Stock

We previously entered into a certain equity distribution agreement, or the Equity Distribution Agreement, with JMP Securities LLC, or JMP Securities, acting as sales agent, for the sale of shares of our common stock having an aggregate offering price of up to \$50,000,000. As of May 11, 2020, we have sold 936,683 shares of our common stock for gross proceeds of \$2.43 million under the Equity Distribution Agreement pursuant to our prospectus supplement dated November 26, 2018 and the accompanying prospectus dated September 8, 2017, or collectively the Prospectus, which leaves \$47.57 million of common stock available under the Equity Distribution Agreement. This prospectus supplement should be read in conjunction with the Prospectus, and is qualified by reference thereto, except to the extent that the information herein amends or supersedes the information contained in the Prospectus. This prospectus supplement is not complete without, and may only be delivered or utilized in connection with, the Prospectus, and any future amendments or supplements thereto.

We are now subject to General Instruction I.B.6 of Form S-3, which limits the amounts that we may sell under the registration statement of which this prospectus supplement and the Prospectus form a part. The aggregate market value of our common stock held by non-affiliates pursuant to General Instruction I.B.6 of Form S-3 is \$59,670,619, which was calculated based on 28,826,386 shares of our outstanding common stock held by non-affiliates on May 11, 2020 at a price of \$2.07 per share, the closing price of our common stock on April 22, 2020. During the 12 calendar months prior to, and including, the date of this prospectus supplement, we have not sold any securities pursuant to General Instruction I.B.6 of Form S-3. As of the date of this prospectus supplement, the aggregate amount of securities we are permitted to sell pursuant to General Instruction I.B.6 is \$19,890,206. As a result of the limitations of General Instruction I.B.6, and in accordance with the terms of the Equity Distribution Agreement, we are registering the offer and sale of shares of our common stock having an aggregate offering price of up to \$8,000,000 from time to time through JMP Securities.

Our common stock is traded on the Nasdaq Capital Market under the symbol "IDRA." On May 11, 2020, the last reported sale price of our common stock was \$1.95 per share.

Investing in our common stock involves significant risks. See "Risk Factors" in the Prospectus and in the documents incorporated by reference in this prospectus supplement and the Prospectus for a discussion of the factors you should consider before deciding to purchase our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement and accompanying prospectus. Any representation to the contrary is a criminal offense.

JMP Securities

The date of this prospectus supplement is May 12, 2020.
