

MEI Pharma, Inc. (“MEI”) has filed a registration statement on Form S-4, as amended (File No. 333-271481) (the “Registration Statement”) with the Securities and Exchange Commission (“SEC”) for the offering to which this communication relates. The Registration Statement relates to an offering of securities of MEI to stockholders of Infinity Pharmaceuticals Inc., a Delaware corporation (“Infinity”), in connection with the merger (the “Merger”) contemplated by that certain Agreement and Plan of Merger (the “Merger Agreement”), dated as of February 22, 2023, by and among MEI, Infinity and Meadow Merger Sub, Inc. (“Merger Sub”), a direct, wholly-owned subsidiary of MEI. The prospectus filed on Form 424B3 in connection with the Registration Statement consists of a joint proxy statement/prospectus dated June 6, 2023, as supplemented with a prospectus supplement dated July 3, 2023 (the “Prospectus”).

The following information supplements and updates the information contained in the Prospectus and should be read together with the Prospectus. A copy of the Prospectus can be accessed through the following link:

<https://www.sec.gov/Archives/edgar/data/1262104/000119312523161633/d443400d424b3.htm>

Before you invest, you should read the Prospectus and Registration Statement and other documents MEI has filed with the SEC for more complete information about the issuer and this offering. You may get these documents for free by visiting EDGAR on the SEC website at www.sec.gov.

Defined terms used herein and not otherwise defined shall have the meanings set forth in the Prospectus.

Supplemental Disclosure

On July 13, 2023, MEI announced that it has postponed its special meeting in connection with the proposed transaction with Infinity to July 23, 2023, at 10:00 a.m. Eastern Time, unless postponed or adjourned to a later date.

**SUPPLEMENT TO
PROSPECTUS**

This supplemental information should be read in conjunction with the Prospectus, which should be read in its entirety, including but not limited to the “CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS AND INDUSTRY AND MARKET DATA” at pages 1-2 and the additional cautionary statements under the heading “THE MERGER—Summary of Certain MEI Unaudited Prospective Financial Information” at pages 153-154 of the Prospectus.

Postponement of Special Meeting

MEI has postponed the special meeting of stockholders scheduled to be held on July 14, 2023 to July 23, 2023, at 10:00 a.m. Eastern Time, unless postponed or adjourned to a later date. The postponed MEI Special Meeting will be held entirely as a virtual meeting. You will be able to attend and participate in the MEI Special Meeting online by visiting www.meetnow.global/M44PQGZ, where you will be able to listen to the meeting live, submit questions and vote. This has been done to provide adequate time for MEI shareholders to consider the merits of and vote FOR the Infinity transaction.

—END OF SUPPLEMENT TO PROSPECTUS—

Forward Looking Statements

This supplement contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements are based upon current plans, estimates and expectations of the management of MEI and Infinity that are subject to various risks and uncertainties that could cause actual results to differ materially from such statements, many of which are beyond the control of MEI and Infinity. The inclusion of forward-looking statements should not be regarded as a representation that such plans, estimates and expectations will be achieved. Words such as “anticipate,” “expect,” “project,” “intend,” “believe,” “may,” “will,” “should,” “plan,” “could,” “continue,” “target,” “contemplate,” “estimate,” “forecast,” “guidance,” “predict,” “possible,” “potential,” “pursue,” “likely,” and words and terms of similar substance used in connection with any discussion of future plans, actions or events identify forward-looking statements. All statements, other than historical facts, including statements regarding the expected timing of the closing of the Merger; the ability of the parties to complete the Merger considering the various closing conditions; the expected benefits of the Merger, including estimations of anticipated cost savings and cash runway; the competitive ability and position of the combined company; the potential, safety, efficacy, and regulatory and clinical progress of the combined company’s product candidates, including the anticipated timing for initiation of clinical trials and release of clinical trial data and the expectations surrounding potential regulatory submissions, approvals and timing thereof; the sufficiency of the combined company’s cash, cash equivalents and short-term investments to fund operations; and any assumptions underlying any of the foregoing, are forward-looking statements. Important factors that could cause actual results to differ materially from MEI’s and Infinity’s plans, estimates or expectations could include, but are not limited to: (i) the risk that the Merger may not be completed in a timely manner or at all, which may adversely affect MEI’s and Infinity’s businesses and the price of their respective securities; (ii) uncertainties as to the timing of the consummation of the Merger and the potential failure to satisfy the conditions to the consummation of the Merger, including obtaining stockholder and regulatory approvals; (iii) the Merger may involve unexpected costs, liabilities or delays; (iv) the effect of the announcement, pendency or completion of the Merger on the ability of MEI or Infinity to retain and hire key personnel and maintain relationships with customers, suppliers and others with whom MEI or Infinity does business, or on MEI’s or Infinity’s operating results and business generally; (v) MEI’s or Infinity’s respective businesses may suffer as a result of uncertainty surrounding the Merger and disruption of management’s attention due to the Merger; (vi) the outcome of any legal proceedings related to the Merger or otherwise, or the impact of the Merger thereupon; (vii) MEI or Infinity may be adversely affected by other economic, business and/or competitive factors, (viii) the occurrence of any event, change or other circumstances that could give rise to the termination of the merger agreement and the Merger; (ix) restrictions during the pendency of the Merger that may impact MEI’s or Infinity’s ability to pursue certain business opportunities or strategic transactions; (x) the risk that MEI or Infinity may be unable to obtain governmental and regulatory approvals required for the Merger, or that required governmental and regulatory approvals may delay the consummation of the Merger or result in the imposition of conditions that could reduce the anticipated benefits from the Merger or cause the parties to abandon the Merger; (xi) risks that the anticipated benefits of the Merger or other commercial opportunities may otherwise not be fully realized or may take longer to realize than expected; (xii) the impact of legislative, regulatory, economic, competitive and technological changes; (xiii) risks relating to the value of the MEI shares to be issued in the Merger; (xiv) the risk that integration of the Merger post-closing may not occur as anticipated or the combined company may not be able to achieve the benefits expected from the Merger, as well as the risk of potential delays, challenges and expenses associated with integrating the combined company’s existing businesses; (xv) exposure to inflation, currency rate and interest rate fluctuations, as well as fluctuations in the market price of MEI’s and Infinity’s traded securities; (xvi) the impact of the COVID-19 pandemic on MEI’s and Infinity’s industry and individual companies, including on counterparties, the supply chain, the execution of clinical development programs, access to financing and the allocation of government resources; (xvii) final data from pre-clinical studies and completed clinical trials may differ materially from reported interim data from ongoing studies and trials; (xviii) costs and delays in the development and/or U.S. Food and Drug Administration (“FDA”) approval, or the failure to obtain such approval, of the combined company’s product candidates; (xix) uncertainties or differences in interpretation in clinical trial results; (xx) the combined company’s inability to maintain or enter into, and the risks resulting from dependence upon, collaboration or contractual arrangements necessary for the

development, manufacture, commercialization, marketing, sales and distribution of any product candidates; (xxi) the ability of MEI or Infinity to protect and enforce intellectual property rights; and (xxii) the unpredictability and severity of catastrophic events, including, but not limited to, acts of terrorism or outbreak of war or hostilities, as well as MEI's and Infinity's response to any of the aforementioned factors. Additional factors that may affect the future results of MEI and Infinity are set forth in their respective filings with the United States Securities and Exchange Commission (the "SEC"), including the section entitled "Risk Factors" in the Registration Statement on Form S-4 that was declared effective by the SEC on June 6, 2023 and each of MEI's and Infinity's most recently filed Annual Reports on Form 10-K, subsequent Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other filings with the SEC, which are available on the SEC's website at www.sec.gov. See in particular MEI's Annual Report on Form 10-K for the fiscal year ended June 30, 2022 in Part I, Item 1A, "Risk Factors," and Infinity's Annual Report on Form 10-K for the fiscal year ended December 31, 2022, in Part I, Item 1A, "Risk Factors." The risks and uncertainties described above and in the SEC filings cited above are not exclusive and further information concerning MEI and Infinity and their respective businesses, including factors that potentially could materially affect their respective businesses, financial conditions or operating results, may emerge from time to time. Readers are urged to consider these factors carefully in evaluating these forward-looking statements, and not to place undue reliance on any forward-looking statements. Any such forward-looking statements represent management's reasonable estimates and beliefs as of the date of this filing. While MEI and Infinity may elect to update such forward-looking statements at some point in the future, they disclaim any obligation to do so, other than as may be required by law, even if subsequent events cause their views to change.

Additional Information about the Merger and Where to Find It

This supplement relates to a proposed transaction between Infinity and MEI. In connection with the proposed merger, MEI filed with the SEC a registration statement on Form S-4 that includes a joint proxy statement of MEI and Infinity (the "Joint Proxy Statement/Prospectus") that also constitutes a prospectus of MEI. The registration statement on Form S-4 was declared effective by the SEC on June 6, 2023. MEI and Infinity have each filed and mailed the Joint Proxy Statement/Prospectus to their respective stockholders. INVESTORS AND MEI'S AND INFINITY'S RESPECTIVE STOCKHOLDERS ARE URGED TO READ THE JOINT PROXY STATEMENT/PROSPECTUS IN ITS ENTIRETY AND ANY OTHER DOCUMENTS FILED BY EACH OF MEI AND INFINITY WITH THE SEC IN CONNECTION WITH THE PROPOSED MERGER OR INCORPORATED BY REFERENCE THEREIN BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED MERGER AND THE PARTIES TO THE PROPOSED MERGER. Investors and stockholders may obtain a free copy of the Joint Proxy Statement/Prospectus and other documents containing important information about MEI and Infinity from the SEC's website at www.sec.gov. MEI and Infinity make available free of charge at www.meipharma.com and www.infi.com, respectively (in the "Investors" and "Investors/Media" sections, respectively), copies of materials they file with, or furnish to, the SEC.

Participants in the Solicitation

Infinity, MEI and their respective directors, executive officers and certain employees and other persons may be deemed to be participants in the solicitation of proxies from the stockholders of Infinity and MEI in connection with the proposed merger. Securityholders may obtain information regarding the names, affiliations and interests of Infinity's and MEI's directors and executive officers in the Joint Proxy Statement/Prospectus which may be obtained free of charge from the SEC's website at www.sec.gov, Infinity's investor website at <https://investors.infi.com/> and MEI's investor website at <https://www.meipharma.com/investors/>.