THIS ANNOUNCEMENT CONTAINS INSIDE INFORMATION AS DEFINED UNDER THE MARKET ABUSE REGULATION (EU) NO. 596/2014. UPON PUBLICATION OF THIS ANNOUNCEMENT THIS INFORMATION IS NOW CONSIDERED IN THE PUBLIC DOMAIN.

Mereo BioPharma Announces Equity Investment of $3 Million from New U.S. Institutional Investor

London and Redwood City, Calif., February 19, 2020 - Mereo BioPharma Group plc (NASDAQ: MREO, AIM: MPH), "Mereo" or the "Company," today announced that it has entered into a Securities Purchase Agreement (the "Agreement") with a new U.S.-based institutional healthcare investor. Under the terms of the Agreement, the institutional investor has agreed to make an investment of $3 million to purchase 12,252,715 of the Company's ordinary shares (equivalent to 2,450,543 American Depository shares (ADSs)) at a price equivalent to 18.8 pence per share, which represents a 20% discount over Mereo's closing share price of 23.5 pence on AIM on February 18, 2020.

Mereo intends to use the net proceeds from the private offering for general corporate purposes, including clinical trial activity and working capital. There are no warrants, derivatives, or other share classes associated with the Agreement. Further, there are no restrictions on future financings and there are no financial covenants, participation rights, rights of first refusal, or penalties in the Agreement.

Additional detail regarding the Agreement is set forth in Mereo's Report on Form 6-K filed today with the SEC.

Admission and Total Voting Rights

Application has been made for 12,252,715 new ordinary shares of £0.003 each (the "New Shares") to be admitted to trading on AIM ("Admission") and it is expected that Admission will take place at 8.00 a.m. on February 20, 2020. These New Shares will rank *pari passu* with the existing ordinary shares in the capital of the Company.

The New Shares represent approximately 9.8% of the enlarged issued share capital of Mereo. Following Admission, the total number of shares in issue will be 124,507,857 ordinary shares of £0.003 each, each with voting rights, none of which are held in treasury. Therefore, the total number of voting rights in the Company will be 124,507,857. Shareholders may use this figure as the denominator for the calculations by which they will determine if they are required to notify their interest in, or to notify a change to their interest in, the issued share capital of Mereo, pursuant to the Disclosure Guidance and Transparency Rules.

The information contained in this press release shall not constitute an offer to sell or a solicitation of an offer to buy any securities, nor shall there by any offer, solicitation or sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. The securities referenced in this press release have not been registered under the Securities Act of 1933 and may not be offered or sold in the United States absent registration or an applicable exemption from the registration statement requirements of the Securities Act of 1933.

About Mereo BioPharma

Mereo BioPharma is a biopharmaceutical company focused on the development and commercialization of innovative therapeutics that aim to improve outcomes for patients with rare diseases. Mereo's strategy is to selectively acquire product candidates for rare diseases that have already received

significant investment from pharmaceutical and large biotechnology companies and that have substantial preclinical, clinical and manufacturing data packages. Mereo's lead rare disease product candidate, setrusumab, has completed a Phase 2b dose ranging study in adult patients with osteogenesis imperfecta ("OI"). Mereo's second lead product candidate, alvelestat, is being investigated in a Phase 2 proof-of-concept clinical trial in patients with alpha-1 antitrypsin deficiency ("AATD"). Mereo's broader pipeline consists of four additional clinical-stage product candidates; acumapimod for the treatment of acute exacerbations of chronic obstructive pulmonary disease ("AECOPD"), leflutrozole for the treatment of hypogonadotropic hypogonadism ("HH") in obese men, and etigilimab for patients with advanced or metastatic solid tumors.

Additional Information
The person responsible for arranging the release of this information on behalf of the Company is Charles Sermon General Counsel

The information contained in this Announcement is for information purposes only and does not purport to be full or complete. No reliance may be placed for any purpose on the information contained in this Announcement or its accuracy, fairness or completeness.

This Announcement does not constitute a prospectus or offering memorandum or an offer in respect of any securities and is not intended to provide the basis for any decision in respect of the Company or other evaluation of any securities of the Company or any other entity and should not be considered as a recommendation that any investor should subscribe for, purchase, otherwise acquire, sell or otherwise dispose of any such securities.

Forward-Looking Statements
This Announcement contains "forward-looking statements." All statements other than statements of historical fact contained in this Announcement are forward-looking statements within the meaning of Section 27A of the United States Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the United States Securities Exchange Act of 1934, as amended (the "Exchange Act"). Forward-looking statements usually relate to future events and anticipated revenues, earnings, cash flows or other aspects of our operations or operating results. Forward-looking statements are often identified by the words "believe," "expect," "anticipate," "plan," "intend," "foresee," "should," "would," "could," "may," "estimate," "outlook" and similar expressions, including the negative thereof. The absence of these words, however, does not mean that the statements are not forward-looking. These forward-looking statements are based on the Company's current expectations, beliefs and assumptions concerning future developments and business conditions and their potential effect on the Company. While management believes that these forward-looking statements are reasonable as and when made, there can be no assurance that future developments affecting the Company will be those that it anticipates.

Factors that could cause actual results to differ materially from those in the forward-looking statements include risks relating to unanticipated costs, liabilities or delays; failure or delays in research and development programs, including expected timing of topline data for the Phase 2 proof-of-concept clinical trial evaluating the Company's second lead product candidate, alvelestat, in patients with alpha-1 antitrypsin deficiency; the safety and efficacy of the Company's product candidates and the likelihood of clinical data to be positive and of such product candidates to be approved by the applicable regulatory authorities; unanticipated changes relating to competitive factors in the Company's industry; risks relating to the Company's capitalization, resources and ownership structure, including as a result of circumstances affecting the Company's former principal shareholder; the availability of sufficient resources for company operations and to conduct or continue planned clinical development programs, including the Company's ability to continue as a going concern; changes in law or regulations affecting the Company.

All of the Company's forward-looking statements involve known and unknown risks and uncertainties (some of which are significant or beyond its control) and assumptions that could cause actual results to differ materially from the Company's historical experience and its present expectations or projections. The foregoing factors and the other risks and uncertainties that affect the Company's business, including those described in its Annual Report on Form 20-F, Reports on Form 6-K and other documents filed from time to time by the Company with the United States Securities and Exchange Commission (the "SEC") and those described in other documents the Company may publish from time to time should be carefully considered. The Company wishes to caution you not to place undue reliance on any forward-looking statements, which speak only as of the date hereof. The Company undertakes no obligation to publicly update or revise any of our forward-looking statements after the date they are made, whether as a result of new information, future events or otherwise, except to the extent required by law.

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