UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 or 15d-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of October, 2023

Commission File Number: 001-38452

MEREO BIOPHARMA GROUP PLC
(Translation of registrant's name into English)

4th Floor, One Cavendish Place,
London, W1G 0QF, United Kingdom
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ☐

Other Matters:

On October 23, 2023, Mereo BioPharma Group plc (the "Company") issued a press release providing an update on recent program developments and third quarter 2023 financial information. The press release is furnished in Exhibit 99.1 hereto.

Third Quarter 2023 Financial Information:

As of September 30, 2023, the Company had cash and short-term deposits of £51.2 million ($62.4 million). Cash and short-term deposits, net of expenditures, increased by £9.1 million ($11.1 million) during the third quarter of 2023.

In July 2023, the Company received a $9.0 million (£7.1 million) milestone payment from its partner, Ultragenyx, and net proceeds of $11.5 million (£8.9 million), after deducting commissions and estimated issuance costs, from the issuance of 9,673,419 ADSs representing 48,367,095 ordinary shares through an "at-the-market" offering pursuant to its Open Market Sale Agreement with Jefferies LLC (the "Sale Agreement"). The Company expects its existing cash and short-term deposits, excluding income from existing or potential partnerships, will enable it to fund its currently committed clinical trials, operating expenses and capital expenditure requirements into 2026.

For the comparative period, as of September 30, 2022, the Company had cash and short-term deposits of £67.5 million ($74.8 million). Net cash burn during the third quarter of 2022 amounted to £8.9 million ($9.9 million).

The contents of this Report on Form 6-K, excluding Exhibit 99.1 attached hereto, shall be deemed to be incorporated by reference into Mereo BioPharma Group plc's ("Mereo" or the "Company") registration statements on Form F-3 (File Numbers 333-239708 and 333-258495) and Form S-8 (File Numbers 333-231636, 333-236498, 333-252147 333-262151 and 333-269388) and related prospectuses, as such registration statements and prospectuses may be amended from time to time, and to be a part thereof from the date on which this report is filed, to the extent not superseded by documents or reports subsequently filed or furnished.

Exhibit 99.1 to this Report is being furnished and shall not be deemed "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or otherwise subject to liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended or the Exchange Act.

Exhibit Index

Exhibits

99.1	Press Release, dated October 23, 2023.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: October 23, 2023

MEREO BIOPHARMA GROUP PLC

By: /s/ Christine Fox
Name: Christine Fox
Title: Chief Financial Officer

Exhibit 99.1

Mereo BioPharma Reports on Recent Program Developments and Provides Financial Update

London, October 23, 2023 – Mereo BioPharma Group plc (NASDAQ: MREO) ("Mereo" or the "Company"), a clinical-stage biopharmaceutical company focused on rare diseases, today provided an update on recent program developments and third quarter 2023 financial information.

Recent Program Developments

Setrusumab (UX143)

On October 14, 2023, Ultragenyx Pharmaceutical Inc. (NASDAQ: RARE) and Mereo BioPharma Group plc ("Mereo" or the "Company") announced interim data from the Phase 2 portion of the Phase 2/3 Orbit study demonstrating that treatment with setrusumab (UX143) achieved a 67% reduction in annualized fracture rate in patients with osteogenesis imperfecta (OI) with at least 6 months of follow-up and continues to demonstrate ongoing and meaningful improvements in lumbar spine bone mineral density (BMD). The Phase 3 portion of the study is currently enrolling approximately 195 patients at 50 sites across 12 countries.

Alvelestat (MPH-966)

University of Alabama at Birmingham (UAB) and the Company are reporting on the ATALANTa study, a multi-center, double-blind, placebo-controlled, proof-of-concept investigator-led study run by Professor Mark Dransfield, Director of the Division of Pulmonary, Allergy and Critical Care, UAB, in collaboration with Mereo. ATALANTa investigated the safety and efficacy of alvelestat 120 mg, or matched placebo, twice daily, for 12 weeks in a broad range of individuals with Alpha-1 Antitrypsin Deficiency-Associated Lung Disease, including subjects with less severe phenotypes (Pi*SZ) than were enrolled in the Company-sponsored ASTRAEUS Phase 2 study, and those receiving augmentation therapy. The study randomized 63 patients, 32 in the 120 mg alvelestat arm (44% on augmentation therapy) and 31 in the placebo arm (48% on augmentation therapy).

The results demonstrated with the 120 mg dose of alvelestat (the lower dose used in the Phase 2 ASTRAEUS study) are consistent with those observed in ASTRAEUS on blood neutrophil elastase activity and changes in the biomarkers desmosine and Aα-val^{360}. The data from ATALANTa also show the significant effect of alvelestat on the SGRQ-activity domain in patients not on augmentation ($p=0.0106$ versus placebo).

There was no difference in the proportion of patients with treatment-related Adverse Events (AEs) between the alvelestat and placebo arms. There were no Serious Adverse Events (SAEs) and no Adverse Events of Special interest (AESIs) of liver, QTC prolongation or neutropenia observed. AESIs of infection were more frequent in the placebo arm, driven by an increased number of acute exacerbations of COPD (one in the alvelestat arm in a patient on augmentation, and seven exacerbations in the placebo arm in seven patients, five of whom were on augmentation). There were two discontinuations in the alvelestat group due to mild and moderate headache. The data demonstrate that the 120 mg dose of alvelestat is safe on top of augmentation and support Mereo's selection of the 240 mg dose to be studied in the planned Phase 3 pivotal trial. Additional data are expected to be presented by UAB at future medical conferences.

The ATALANTa study was funded by the National Center for Advancing Translational Sciences (NCATS) through the National Institutes of Health (NIH)-Industry Program for discovering new therapeutic uses for existing molecules.

In Europe, the Company has received guidance from the European Medicines Agency (EMA) that a Phase 3 primary endpoint of lung density by computed tomography (CT) scan with a relaxed p value ($p<0.1$) may, if the study is successful, be sufficient for full approval. In the US, the Company is continuing its interactions with the FDA and the Division of Clinical Outcomes Assessment (DCOA) regarding the use of a Patient Reported Outcome (PRO) as a primary Phase 3 endpoint.

The data from the ATALANTa study are expected to further support the ongoing partnering process for the alvelestat Phase 3 program.

Etigilimab (MPH-313)

On October 21, 2023, an update on the Company's Phase 1b/2 study investigating the safety and efficacy of etigilimab (anti-TIGIT) in combination with nivolumab (anti-PD1) in recurrent/advanced solid tumors (ACTIVATE) was presented in a mini-oral session at the ESMO 2023 Congress in Madrid, Spain by Dr. Meredith McKean, Sarah Cannon Research Institute, USA. Of 40 evaluable patients presented in select cohorts, three complete responses (CRs), seven partial responses (PRs) and eleven stable disease (SDs) beyond 112 days (3.7 months) were noted. Seven patients showed clinical benefit for ≥ 335 days (11 months). The data show promising efficacy in PDL1 low patients with six of seven on study ≥ 335 days (11 months) being PDL1 negative or low and all having high PVR tumoral expression. Etigilimab in combination with nivolumab continues to be safe and well tolerated with no new safety signals noted. The last patient last dose was completed at the end of June 2023. The cervical cancer and uveal melanoma cohorts cleared the protocol Simon 2 Stage design interim futility monitoring bar for expansion to Stage 2 and were endorsed by an independent data monitoring committee for expansion.

Etigilimab, in combination with nivolumab, is in an ongoing investigator-led single-arm, two-stage, open-label Phase 1b/2 trial in a subtype of platinum-resistant recurrent ovarian cancer (clear cell ovarian cancer) at The University of Texas MD Anderson Cancer Center, financed by the Cancer Focus Fund. This trial is being led by Dr. Shannon Westin. Enrollment is currently being expanded from the initial 10 patients to 20 patients.

The Company continues to seek a partner for further development of etigilimab.

Third Quarter 2023 Financial Information

As of September 30, 2023, the Company had cash and short-term deposits of £51.2 million ($62.4 million). Cash and short-term deposits, net of expenditures, increased by £9.1 million ($11.1 million) during the third quarter of 2023.

In July 2023, the Company received a $9.0 million (£7.1 million) milestone payment from its partner, Ultragenyx, and gross proceeds of $12.0 million (£9.3 million) from the issuance of 9,673,419 ADSs representing 48,367,095 ordinary shares through an "at-the-market" offering pursuant to its Open Market Sale Agreement with Jefferies LLC. The Company expects its existing cash and short-term deposits, excluding income from existing or potential partnerships, will enable it to fund its currently committed clinical trials, operating expenses and capital expenditure requirements into 2026.

About Mereo BioPharma

Mereo BioPharma is a biopharmaceutical company focused on the development of innovative therapeutics for rare diseases. The Company has two rare disease product candidates, setrusumab for the treatment of Osteogenesis Imperfecta (OI) and alvelestat primarily for the treatment of severe alpha-1-antitrypsin deficiency-associated lung disease (AATD-LD). The Company's partner, Ultragenyx Pharmaceutical, Inc., has initiated a pivotal Phase 2/3 pediatric study in young adults (5 to <26 years old) for setrusumab in OI and a Phase 3 study in pediatric patients (2 to <7 years old) in the first half of 2023. The partnership with Ultragenyx includes potential milestone payments of up to $245 million (following the recent $9 million milestone) and royalties to Mereo on commercial sales in Ultragenyx territories. Mereo has retained EU and UK commercial rights and will pay Ultragenyx royalties on commercial sales in those territories. Setrusumab has received orphan designation for OI from the EMA and FDA, PRIME designation from the EMA and has pediatric disease designation from the FDA. Alvelestat has received U.S. Orphan Drug Designation for the treatment of AATD, Fast Track designation from the FDA, and positive data were reported from a Phase 2 proof-of-concept study in North America, Europe and the UK. In addition to the rare disease programs, Mereo has two oncology product candidates in clinical development. Etigilimab (anti-TIGIT) has completed enrollment in a Phase 1b/2 basket study evaluating its safety and efficacy in combination with an anti-PD-1 in a range of tumor types including three rare tumors and three gynecological carcinomas—cervical, ovarian, and endometrial and is in an ongoing Phase 1b/2 investigator led study at the MD Anderson Cancer Center in clear cell ovarian cancer; navicixizumab, for the treatment of late line ovarian cancer, has completed a Phase 1 study and has been partnered with OncXerna Therapeutics, Inc. in a global licensing agreement that includes payments of up to $300 million in milestones and royalties.

For more information on Mereo BioPharma, please visit www.mereobiopharma.com.

Forward-Looking Statements

This press release contains “forward-looking statements.” All statements other than statements of historical fact contained herein are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the 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.

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. Such risks and uncertainties include, among others, the uncertainties inherent in the clinical development process; the Company’s reliance on third parties to conduct and provide funding for its clinical trials; the Company’s dependence on enrollment of patients in its clinical trials; and the Company’s dependence on its key executives. You should carefully consider the foregoing factors and the other risks and uncertainties that affect the Company’s business, including those described in the “Risk Factors” section of its latest Annual Report on Form 20-F, reports on Form 6-K and other documents furnished or filed from time to time by the Company with the Securities and Exchange Commission. 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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