Unlocking the potential of novel targets for cancer and rare diseases

May 2022

Mereo BioPharma Group plc
NASDAQ: MREO
Disclaimer

This presentation has been prepared by Mereo BioPharma Group plc (the "Company") solely for your information and for the purpose of providing background information on the Company, its business and the industry in which it operates or any particular aspect thereof. For the purposes of this notice, "presentation" means this document, any oral presentation, any question and answer session and any written or oral material discussed or distributed during any related presentation meeting.

This presentation has not been independently verified and no representation or warranty, express or implied, is made or given by or on behalf of the Company or any of its subsidiaries, or any of any such person's directors, officers, employees, agents, affiliates or advisers, as to, and no reliance should be placed on, the accuracy, completeness or fairness of the information or opinions contained in this presentation and no responsibility or liability is assumed by any such persons for any such information or opinions or for any errors or omissions. All information presented or contained in this presentation is subject to verification, correction, completion and change without notice. In giving this presentation, none of the Company or any of its subsidiaries, or any of any such person’s directors, officers, employees, agents, affiliates or advisers, undertakes any obligation to amend, correct or update this presentation or to provide the recipient with access to any additional information that may arise in connection with it. To the extent available, the data contained in this presentation has come from official or third-party sources. Third party industry publications, studies and surveys generally state that the data contained therein have been obtained from sources believed to be reliable, but that there is no guarantee of the accuracy or completeness of such data. While the Company believes that each of these publications, studies and surveys has been prepared by a reputable source, the Company has not independently verified the data contained therein. In addition, certain of the data contained in this presentation come from the Company’s own internal research and estimates based on the knowledge and experience of the Company’s management in the market in which the Company operates. Further, certain of the data has been provided to the Company by contract research organizations that the Company retains to conduct clinical trials, or by other third parties contracted by the Company. While the Company believes that such internal research and estimates and such other data are reasonable and reliable, they, and, where applicable, their underlying methodology and assumptions, have not been verified by any independent source for accuracy or completeness and are subject to change without notice. Accordingly, undue reliance should not be placed on any of the data contained in this presentation.

Forward-Looking Statements

This presentation contains “forward-looking statements.” All statements other than statements of historical fact contained in this presentation are forward-looking statements within the meaning of Section 27A of the United States Securities Act of 1933, as amended, and Section 21E of the United States Securities Exchange Act of 1934, as amended. Forward-looking statements relate to future events, including, but not limited to, statements regarding future clinical development, efficacy, safety and therapeutic potential of clinical product candidates, including expectations as to reporting of data, conduct and timing and potential future clinical activity and milestones and expectations regarding the initiation, design and reporting of data from clinical trials. 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 involve risks and uncertainties that could cause actual results, performance, or events to differ materially from those expressed or implied in such statements. 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. You should not 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 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. This presentation also contains estimates, projections and other information concerning the Company’s business and the markets for the Company’s product candidates, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions. Information that is based on estimates, forecasts, projections, market research, or similar methodologies is inherently subject to uncertainties and actual events, or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, the Company obtained this industry, business, market and other data from reports, research surveys, clinical trials studies and similar data prepared by market research firms and other third parties, from industry, medical and general publications, and from government data and similar sources.
Mereo – A Rare Disease and Oncology Company

Our Mission
To improve the lives of patients with rare diseases and cancer

Strategic Principles

#1
Acquire & develop programs in oncology and rare diseases

#2
Commercialize rare disease products

#3
Partner programs where it makes strategic sense

#4
Focus on our core competences in rare diseases

Achievements & Fundamentals
- Risk sharing partnerships for acquisition/license of four clinical stage programs
- Three successful Phase 2 studies and ongoing Phase 2 and Phase 1b/2
- Partnering three non-core programs – one successfully out licensed
- Global Partnership for a core rare disease program with UK & European commercial rights retained
- Cash runway into 2024 with significant news flow through 2022 (NASDAQ:MREO)

Our Partners
- Ultragenyx
- Oncxerna
- AstraZeneca
- Novartis
## A Diversified Mid-Late Stage Pipeline

### Core Programs

<table>
<thead>
<tr>
<th>Product candidate /indication</th>
<th>Phase 1a</th>
<th>Phase 1b</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Next Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Etigilimab</strong>&lt;br&gt;Solid tumors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Phase 1b/2 full enrolment and data</td>
</tr>
<tr>
<td><strong>Alvelestat</strong>&lt;br&gt;Alpha-1 antitrypsin deficiency&lt;br&gt;BOS*&lt;br&gt;COVID-19 (completed)</td>
<td></td>
<td>Prior Phase 2 studies CF/Bronchiectasis</td>
<td>AATD ATALANTa**</td>
<td></td>
<td>Phase 2 cohort expansion</td>
</tr>
<tr>
<td><strong>Setrusumab</strong>&lt;br&gt;Osteogenesis imperfecta</td>
<td></td>
<td>BOS* - Phase II</td>
<td></td>
<td>5-25 year olds</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2-4 year olds</td>
<td></td>
</tr>
</tbody>
</table>

### Partnered and partnering opportunities on non-core programs

<table>
<thead>
<tr>
<th>Product</th>
<th>Phase 1a</th>
<th>Phase 1b</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Next Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acumapimod</strong>&lt;br&gt;Acute exacerbations of COPD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Separate funding/partner</td>
</tr>
<tr>
<td><strong>Leflutrozole</strong>&lt;br&gt;Male infertility associated with HH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Partner</td>
</tr>
<tr>
<td><strong>Navicixizumab</strong>&lt;br&gt;Ovarian Cancer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OncXerna ~ $300M milestones + royalties</td>
</tr>
</tbody>
</table>

### Financing Milestones

- **Acumapimod**
- **Leflutrozole**
- **Navicixizumab**

---

*BOS: Bronchiolitis Obliterans Syndrome; Investigator initiated studies in collaboration with University of Alabama in Birmingham & National Cancer Institute  
** Investigator initiated study in collaboration with University of Alabama and funded by NCATS

---

Key:  
- **Completed**
- **Ongoing**
Etigilimab (MPH-313)
The role of TIGIT in Immune Cell responses

TIGIT* is a Negative Regulator of T cell Responses

What is TIGIT?
- Negative regulator of T-cell response
- Competes with CD226 for PVR, and disrupts CD226 activation

Where is TIGIT Expressed?
- Highly expressed on regulatory T cells (tregs), exhausted T-cells
- Also expressed on CD4, CD8 and NK cells

Rationale
- Inhibit TIGIT and PVR axis inhibiting T-cell inactivation
- Co-blockade of anti-TIGIT and anti-PD1 elicits anti-tumor activity

*TIGIT: T cell immunoreceptor with Ig and ITIM domains;
# Efficacy

- In Phase 1a monotherapy – seven subjects (30%, n=23) with stable disease
  - Majority heavily pre-treated with prior check-point inhibitors and chemotherapy
- In Phase 1b combination with nivolumab – one partial response* and one stable disease (n=10)
- Some patients remaining on treatment for >200 days

*Partial response in an ovarian patient

# Safety

- No DLTs observed; generally well-tolerated
- Adverse events consistent with immune-related adverse events.
- Favorable PK profile and no evidence of anti-drug antibodies

# Biomarker data

- Target engagement demonstrated in Phase 1a
  - Activation of T-cell and NK cell subpopulations
  - Reduced Tregs in circulation, with corresponding increase in CD8/Treg ratio

*Niharika B. Mettu et al, Clin Cancer Res. 2021*
Guiding Principles for Differentiated Clinical Development of Etigilimab

- Leverage TIGIT Biology: Expression of TIGIT/PVR
- CPI-naïve Populations: Higher PoS for IO combination
- Low ORR with CPIs: Demonstrate benefit of adding TIGIT
- Clinical data from Phase 1a/b: Potential signal in gynonc
- High Unmet Need: Rare cancers

ACTIVATE
ACTIVATE Phase 1b/2 Study Design: Multiple Parallel Cohorts Evaluating Etigilimab + Nivolumab in Select Recurrent Advanced/Metastatic Solid Tumors

6 cohorts, N~125

- Cohort A: Endometrial, CPI-naïve
- Cohort C: Cervical*
- Cohort G: Endometrial, post-CPI
- Cohort H: Ovarian (HGSOC)
- Cohort E: Rare Tumors
- Cohort F: TMB-H/MSS

*Requires CPS ≥1% for eligibility

Clin Trials Identifier: NCT04761198

Statistical rigor provided by Simon Two-Stage design with futility monitoring for progression to stage two. Open label allows for dynamic decision making

Study Endpoints

Primary
Overall Response Rate Investigator-assessed (RECIST 1.1; Collect and hold)

Secondary
Safety and Tolerability
PK/PD
Duration of response

Exploratory
Biomarker
PFS
OS
ORR (iRECIST)

Tumor responses at baseline, every 8 wk for the first 48 wk, and every 12 wk thereafter
ACTIVATE Trial: Preliminary Efficacy

*Investigator RECIST 1.1 assessment per timepoint*

<table>
<thead>
<tr>
<th>Objective Responses by RECIST</th>
<th>A EC (CPI-naïve) N=0</th>
<th>B H&amp;N N=1</th>
<th>C Cervical N=1</th>
<th>E TMB-H/MSS N=4†</th>
<th>F Uveal-Sarcoma-5 GCT-1 N=12†</th>
<th>G EC (Post-CPI) N=0</th>
<th>H Ovarian N=4</th>
<th>Total evaluable n=20† Efficacy analysis2 n=15</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>PR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SD</td>
<td>1</td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>PD</td>
<td>1</td>
<td>2</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>ORR (CR+PR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13.3%</td>
<td></td>
</tr>
<tr>
<td>DCR (CR+PR+SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40.0%</td>
<td></td>
</tr>
</tbody>
</table>

1 Evaluable population data reflect a minimum of first scan at 8 weeks for all patients of the safety analysis set, data cut off date 11/18/2021
2 Efficacy analysis set excludes: 5 sarcoma subjects – non-prioritized histology enrolled early in trial

*Sources: Unclean data from soft lock of database 11/18/2021, PI communications, Statistical outputs for IDMC, Data cut off date – 10/15/2021
† one patient not evaluable
### Preliminary Efficacy by Subject: Key Biomarker Correlations*

*Benefit in PD-L1 negative/PVR positive patients*

<table>
<thead>
<tr>
<th>Subject ID</th>
<th>Cohort/Tumor</th>
<th>PD-L1 status</th>
<th>Other pertinent biomarkers</th>
<th>Response and Study Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>102-101-C001</td>
<td>Cervical cancer</td>
<td>Positive</td>
<td>PVR – N/A</td>
<td>cCR, Off study^</td>
</tr>
<tr>
<td>102-101-E025†</td>
<td>TMB-H/MSS Cervical cancer</td>
<td>Positive</td>
<td>PVR+</td>
<td>uSD Completed cycle 7</td>
</tr>
<tr>
<td>102-101-H024</td>
<td>Ovarian cancer</td>
<td>Negative</td>
<td>PVR+</td>
<td>uPR Completed cycle 8</td>
</tr>
<tr>
<td>102-107-H029</td>
<td>Ovarian cancer</td>
<td>Negative</td>
<td>PVR+</td>
<td>uSD Completed cycle 5</td>
</tr>
<tr>
<td>102-101-F020</td>
<td>Uveal melanoma</td>
<td>Negative</td>
<td>PVR – N/A</td>
<td>uSD Completed cycle 8</td>
</tr>
<tr>
<td>102-101-F030</td>
<td>Uveal melanoma</td>
<td>Negative</td>
<td>PVR – N/A</td>
<td>uSD Completed cycle 5</td>
</tr>
</tbody>
</table>

*Statistical outputs for IDMC, Data cutoff date – 10/15/2021, unclean data from soft lock of database on 11/18/2001, RAVE database, PI communications

^ Subject withdrew consent, but CR was sustained at time of withdrawal

n/a (not available): C001 FFPE tumor not evaluable; F030 tumor not available at time of analysis

† Subject 102-101-E025 is a TMB-high cervical patient
Summary of AEs (Safety Analysis Set - n=22)*

- AEs related to study treatment occurred in 10 subjects – mostly low grades
  - There were 18 events related to study treatment
  - Most were related to both etigilimab and nivolumab
- The most common treatment-related AEs were due to skin reactions – 7 events
- None of them required treatment with systemic steroids
- There was only one Grade 3 treatment-related AE requiring prolonged treatment (immune-related diabetes mellitus)

<table>
<thead>
<tr>
<th>Event</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any TEAEs</td>
<td>62</td>
</tr>
<tr>
<td>Grade &gt;/= 3 TEAEs</td>
<td>1 (1.6)</td>
</tr>
<tr>
<td>All Related AEs</td>
<td>18 (29.0)</td>
</tr>
<tr>
<td>Grade &gt;/= 3 Related AEs</td>
<td>1** (5.5)</td>
</tr>
<tr>
<td>Related SAEs</td>
<td>0</td>
</tr>
<tr>
<td>Related discontinuations</td>
<td>0</td>
</tr>
<tr>
<td>Related deaths</td>
<td>0</td>
</tr>
</tbody>
</table>

**Diabetes mellitus

*Statistical outputs for IDMC, Data cutoff date – 10/15/2021, unclean data from soft lock of database
Etigilimab - Anti-TIGIT Antibody With Differentiated Development Path

**Etigilimab - IgG1 antibody**
- IgG1 backbone activates antibody-dependent cellular cytotoxicity (ADCC)
- Preclinical data suggest advantages over ADCC-null anti-TIGIT mAbs
- Target engagement demonstrated

**ACTIVATE 1b/2 data**
- Early signs of efficacy esp gynonc - 1CR, 1PR and 4 SDs of 15 patients with a minimum of one scan
- PR in PDL-1 negative ovarian patient adds to PR in ovarian patient in Phase 1b
- The ovarian cohort has cleared futility for expansion to Stage 2 per Simon Stage design*

**Biomarker Strategy**
- Biomarkers established for potential future patient selection
- Correlation of clinical benefit with PVR expression observed in tumors with typically poor responses to anti-PD-1/PDL-1

ACTIVATE Trial
Differentiated Phase 1b/2 Trial Design

*Pending IDMC review
Alvelestat - An Oral Inhibitor Of Neutrophil Elastase (NE)

- Alvelestat is a potent, reversible, oral inhibitor of neutrophil elastase (NE), with safety established in >1000 subjects

Two development pathways:

- Alpha-1 anti-trypsin deficiency (AATD) - two Phase II PoC trials ongoing

- Signal seeking studies in COVID-19 and GVHD BOS*

* Graft vs. host disease - Bronchiolitis Obliterans Syndrome
AATD-Lung Disease - A Rare Progressive Disease With A High Unmet Need

Alpha-1 antitrypsin (AAT) inhibits the action of neutrophil elastase. Individuals who lack AAT or produced misfolded inactive AAT are at risk from progressive lung damage and early onset emphysema.

<table>
<thead>
<tr>
<th>AATD-LD</th>
<th>Unmet Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Presents age 20 to 50, symptoms include, shortness of breath, cough, reduced exercise tolerance</td>
<td>• Current treatment options limited to intravenous plasma-derived augmentation therapy with limitations:</td>
</tr>
<tr>
<td>• Target population estimates - 50,000 in North America and 60,000 in Europe and the UK\textsuperscript{1,2,3}</td>
<td>• Clinical efficacy not uniformly recognized by physicians or payors</td>
</tr>
<tr>
<td>• AATD community groups are well established</td>
<td>• Inability to ‘titrate’ up for acute lung inflammation</td>
</tr>
</tbody>
</table>

\textsuperscript{1} Francisco et al (2012) Rare alpha-1-antitrypsin variants: are they really so rare? Therapeutic Advances in Respiratory Disease January 30; \textsuperscript{2} Luisetti et al (2004) a1-Antitrypsin deficiency; \textsuperscript{3} Epidemiology of a1-antitrypsin deficiency Thorax 59:164-169
Linking Biomarkers to Pathological Pathway

AATD-Lung Disease Pathogenic Pathway

<table>
<thead>
<tr>
<th>Blood NE</th>
<th>Aα-Val³⁶₀</th>
<th>Desmosine</th>
<th>CT Density/FEV1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elastase Activity</td>
<td>Unopposed NE</td>
<td>Alveolar Elastin Breakdown</td>
<td>Lung Tissue Loss/Emphysema</td>
</tr>
</tbody>
</table>

- Increased elastase activity
- Increase in elastase-driven target (fibrinogen) breakdown
- Elastin breakdown fragments
- Blood NE
- Aα-Val³⁶₀
- Desmosine
- Alveolar Elastin Breakdown
- CT Density/FEV1
- Alvelestat

Breakdown of elastin fibers in alveolus
Study Design: ASTRAEUS, A 12-week PoC Study In Participants With AATD-LD

A 12-week Study Treating Participants Who Have alpha1-antitrypsin-related COPD with alvelestat or Placebo.

Enrolled 99 patients
- Age ≥18 and ≤80 years with Pi*ZZ, Pi*Z Null, Pi*Null genotype/phenotype
- FEV1 ≥20% predicted

Randomization
- Initial randomisation to placebo or alvelestat 120 mg dose
- Randomisation to high dose initiated after IDMC review of safety data from first cohort
- Option to drop low dose arm if high dose is well tolerated

12 week dosing period, 4 weeks follow-up
- Alvelestat Placebo bid
- Alvelestat 120 mg bid (low dose)
- Alvelestat High dose bid

Primary Endpoint
- Within individual change from baseline up to end of treatment **within treatment arm** and in comparison, to placebo up to week 12 in:
  - Blood Neutrophil Elastase activity
  - Blood Aα-Val360 levels
  - Plasma desmosine/isodesmosine levels

Secondary Endpoints
- Safety and tolerability
- Lung damage and inflammation biomarkers
- Pharmacokinetics
- St. George's Respiratory Questionnaire
- Spirometry including - Forced expiratory volume in 1 second (FEV1), FVC and FEF25-75
- Exacerbations

Clin Trials Identifier: NCT03636347
ATALANTa* A 12 Week Investigator-Led Study Of Alvelestat In AATD-LD
Mark Dransfield, University of Alabama at Birmingham

ATALANTa includes patients who are currently on augmentation therapy

Randomization

N = 66
1:1 active to placebo

12-week dosing period

Alvelestat Placebo bid N=33

Alvelestat 120 mg bid N=33

Primary Endpoints

• Within-individual % change in plasma desmosine/isodesmosine (week 12)
• Treatment emergent adverse events (week 16)

*Alvelestat for the Treatment of ALpha-1 ANTitrypsin Deficiency “ATALANTa”

Funded by NCATS

Clin Trials Identifier: NCT03679598

• Age ≥18 and ≤80 years
• Pi*ZZ, Pi*SZ, Pi*Z Null, or Pi*Null genotype/phenotype
• Emphysema, FEV1 ≥25% predicted
# Signal Seeking Studies For Indication Expansion

## Rationale
- Neutrophil extracellular traps (NETosis) is a pathogenic mechanism in COVID-19 infection highly dependent on neutrophil elastase (NE)

## Study Summary
- Phase 1b/2 study in patients with COVID-19 respiratory disease
- Enrolled 15 patients – randomised (1:1) to alvelestat or placebo BID for 5 days, with optional extension to 10 days

## Key Endpoints
- **Primary**: Safety and tolerability to day 60 and mortality at day 90
- **Secondary**: Biomarkers of NETosis and inflammation

## Results to-date
- Alvelestat reported safe and well-tolerated in patients with COVID-19
- Alvelestat, on top of standard of care resulted in a more rapid time to improvement in WHO Disease Severity score of ≥2 in the first 5-7 days compared to placebo plus standard of care

## Collaborator
- Led by Dr. James M. Wells, University of Alabama at Birmingham

## COVID-19
| **Rationale** | NE is a pro-inflammatory and pro-fibrotic driver of lung disease in BOS and BOS is significant cause of morbidity and mortality in GVHD and post lung transplant |
| **Study Summary** | Phase 1b/2 open label study in 34 patients with moderate to severe BOS following hematopoietic stem cell transplant. Alvelestat intra-subject dose escalation to 240mg bid. **The Phase 1b is completed and moving into Ph2 in 2H 2022** |
| **Key Endpoints** | **Primary**: Optimal biological dose (Ph 2) and clinical efficacy (Ph2) and safety  
**Other key endpoints**: Desmosine, NE activity, lung inflammatory markers. Spirometry, PK, tox assessment & chronic GVHD scoring |
| **Results to-date** | Phase 1b interim data - progressive reduction of plasma desmosine over 8 weeks in 6 of 7 treated patients, all of whom had improved or stable lung disease (FEV1) and reduction in stimulated neutrophil elastase activity.  
Suppressive effect on biomarkers of elastase activity and collagen synthesis |
| **Collaborator** | Study is under investigator IND, led by Dr. Pavletic (National Cancer Institute) |

* Graft vs. host disease - Bronchiolitis Obliterans Syndrome
Alvelestat Key Differentiating Features

Profile for long term treatment of AATD lung disease and NETosis-driven diseases

- Oral, twice daily dosing
- High neutrophil elastase inhibition > 90% at doses in development
- Combination of twice daily dosing and high neutrophil elastase inhibition allows for 24/7 enzyme coverage
- Highly specific neutrophil elastase inhibition – reduces potential for side effects
- Rapid onset of action < 4 hours to > 90% enzyme inhibition
Setrustomab
(BPS-804 / UX143)
What is OI?

• A rare genetic bone disease, linked to a mutation in Type I collagen.¹,²
• Symptoms include frequent bone fractures, skeletal deformities, pain, respiratory and gastric problems – early diagnosis & no FDA or EMA approved therapies
• Affects approximately 60,000 individuals (pediatrics and adults)
• Community groups well established - umbrella organizations OIFE & OIF* support national groups

Setrumsab

• Antibody targeting sclerostin – anabolic which also reduces resorption of bone
• Significant unmet need in both adult and pediatric populations.
• OI is a progressive condition. Care pathways less clear in adults
• Partnered with Ultragenyx leading the clinical development

* OIFE: Osteogenesis Imperfecta Federation Europe; OIF: Osteogenesis Imperfecta Foundation
1. Based on Osteogenesis Imperfecta Foundation estimates; 2. Based on Orphanet estimates
Summary of Phase 2b Results from ASTEROID

Study Overview
Phase 2b study (n=90) blinded with 3 dose arms, monthly dosing for 12 months
Enrolled adult OI types I, III, and IV (~90% of the prevalent population)

Efficacy Results
Clear, dose-dependent, statistically significant bone building effect (DXA scans) at multiple anatomical sites and consistent across all OI subtypes studied*
Statistically significant increases in bone failure load and bone stiffness at the high dose
Lower number of fractures and lower fracture rate observed at the high dose

Safety Findings
Setrusumab was well tolerated and no safety concerns were observed (including no cardiac)

Similar BMD gains in the first and second 6 months of treatment – longer term therapy

*Primary endpoints: Radial Tb vBMD at 12 months was not significantly changed after setrusumab treatment. However, setrusumab elicited dose-dependent increases in bone strength indices and total vBMD at the radius, with stiffness and cortical vBMD also increased at the tibia (all significant at 20 mg/kg). Significant increases in DXA aBMD were observed at lumbar spine and total hip (all doses), as well as at the femoral neck (20 mg/kg).

Ultragenyx – Mereo Partnership and Long Term Plan

**Mereo – Ultragenyx partnership**

- Ultragenyx funding global development plan in pediatrics and adults
- Mereo retains rights to commercialization in EU/EEA and UK – Ultragenyx US and ROW
- Received $50M upfront with up to $254M for clinical, regulatory and commercial milestones
- Ultragenyx pays Mereo tiered double digit % royalties on net sales
- Mereo pays Ultragenyx fixed double digit % royalty on net sales

**Clinical Development**

- Led by Ultragenyx & supported by Mereo
- Phase 2/3 pediatric study in OI in patients 5-25 yrs old
  - Phase 2 to determine optimal dose based on collagen production (P1NP)
  - Phase 3 – fractures over 15-24 months
  - Initiation 1H 2022
- Phase 2 pediatric study in OI in young children < 5 yrs old
- Registrational pathway for adults with OI under discussion

*Clin Trials Identifier: NCT05125809*

**Commercialization in Mereo Territories**

- Mereo’s current focus is on European and UK commercialization of setrusumab
- IMPACT Survey, the largest data set on the impact of OI. Results will support OI advocacy & commercialization efforts
Upcoming Milestones
# Upcoming Key Milestones & Opportunities

<table>
<thead>
<tr>
<th>Product Candidate</th>
<th>Indication</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>Partner</th>
<th>Next Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Etigilimab</td>
<td>Solid tumors</td>
<td><strong>Phase 1b/2 basket study with potential cohort expansion</strong></td>
<td></td>
<td></td>
<td></td>
<td>Phase 1b/2 full enrolment and data Phase 2 cohort expansion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alvelestat</td>
<td>AATD</td>
<td><strong>Phase 2 ASTRAEUS</strong></td>
<td>Phase 2 ATALANTA</td>
<td></td>
<td></td>
<td>AATD ASTRAEUS Phase 2 top-line data BOS Phase 2 Initiation</td>
</tr>
<tr>
<td></td>
<td>BOS</td>
<td><strong>Phase 1b</strong></td>
<td>Phase 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setrusumab</td>
<td>Osteogenesis imperfecta</td>
<td><strong>Pediatric Phase 2b/3 fracture study (5-25 years)</strong></td>
<td><strong>Pediatric study (&lt;5 years)</strong></td>
<td></td>
<td></td>
<td>Phase 2/3 Dosing Update &amp; Phase 3 Transition Supportive Study Initiation (Age &lt;5)</td>
</tr>
</tbody>
</table>

*ASTRAEUS is a proof-of-concept phase 2 study

## Non-core Programs

*Navicixizumab* has been partnered with OncXerna for further development. **Received a $2M CMC milestone**

*Leflutrozole and acumapimod* are currently under partnering discussions. **Next Milestone**: Partnership agreement
Cash runway into 2024
$127.3 million (£94.3m) as of December 31, 2021

### Financial Highlights

#### One ADS represents five ordinary shares

#### Assumes a market price of $4.00 per ADS and cashless exercise. The maximum number of warrants outstanding is 29.8m.

#### Excludes 2.9m ADSs payable either in ADSs or cash at election of the note holder

#### Excludes 1.9m ADSs for employee share awards with an exercise price in excess $8.00

### Cap Table (February 28, 2022)

<table>
<thead>
<tr>
<th>ADSs (in thousands)</th>
<th>ADSs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shareholders &gt; 5% holding</td>
<td>51,729</td>
</tr>
<tr>
<td>Shareholders &lt; 5% holding</td>
<td>64,767</td>
</tr>
<tr>
<td>Share capital - Issued and outstanding</td>
<td>116,496</td>
</tr>
</tbody>
</table>

### Potential Future Dilution:

<table>
<thead>
<tr>
<th>ADSs (in thousands)</th>
<th>ADSs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warrants</td>
<td>12,529</td>
</tr>
<tr>
<td>Convertible loan notes</td>
<td>16,779</td>
</tr>
<tr>
<td>Employee share schemes</td>
<td>9,029</td>
</tr>
</tbody>
</table>
Navicixizumab partnered with OncXerna ($300M + royalties)
• Leflutrozole for male infertility associated with HH infertility
• Acumapimod for AECOPD

Developing therapeutics for oncology and rare diseases based on novel targets with strong biological rationale

• Etigilimab – an anti-TIGIT antibody with early promising data in an ongoing Phase 1b/2 basket study
• Alvelestat – an oral neutrophil elastase inhibitor in Phase 1b/2 studies for AATD and BOS with a COVID study completed
• Setrusumab – an anti-sclerostin antibody that has completed a Phase 2b in adults with OI and expected to enter a pivotal study in pediatrics with our partner Ultragenyx

Programs for partnering income

• Navicixizumab
• Leflutrozole
• Acumapimod

Multiple near-term clinical and pipeline milestones

Highly experienced management team with significant expertise in rare diseases and oncology

Cash runway into 2024