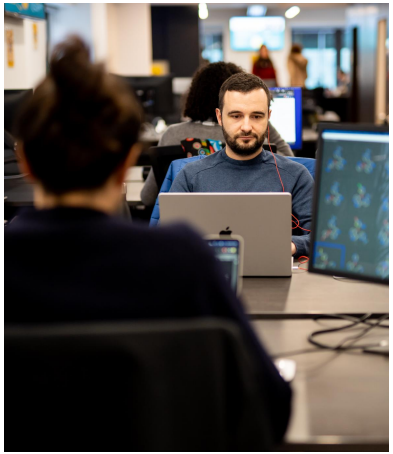


BenevolentAI:
Complex biology, unlocked

J.P Morgan Healthcare Conference

Joanna Shields, CEO, BenevolentAI
9 January 2023

BenevolentAI

Disclaimer

Forward-Looking Statements

This document may contain forward-looking statements. Forward-looking statements are statements that are not historical facts and may be identified by words such as "plans", "targets", "aims", "believes", "expects", "anticipates", "intends", "estimates", "will", "may", "should" and similar expressions. Forward-looking statements include statements regarding objectives, goals, strategies, outlook and growth prospects; future plans, events or performance and potential for future growth; economic outlook and industry trends; developments in BenevolentAI's markets; the impact of regulatory initiatives; and/or the strength of BenevolentAI's competitors. These forward-looking statements reflect, at the time made, BenevolentAI's beliefs, intentions and current targets/aims. Forward-looking statements involve risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. The forward-looking statements in this release are based upon various assumptions based on, without limitation, management's examination of historical operating trends, data contained in BenevolentAI's records, and third-party data. Although BenevolentAI believes that these assumptions were reasonable when made, these assumptions are inherently subject to significant known and unknown risks, uncertainties, contingencies and other important factors which are difficult or impossible to predict and are beyond BenevolentAI's control.

Forward-looking statements are not guarantees of future performance and such risks, uncertainties, contingencies and other important factors could cause the actual outcomes and the results of operations, financial condition and liquidity of BenevolentAI or the industry to differ materially from those results expressed or implied by such forward-looking statements. The forward-looking statements speak only as of the date of this release. No representation or warranty is made that any of these forward-looking statements or forecasts will come to pass or that any forecast result will be achieved.

A clinical-stage AI-enabled drug discovery company

SCIENTIFIC VALIDATION

15 named **Platform-generated drug** programmes

3 assets in **pre-IND**

1 asset in **Phase II**

10+ **exploratory stage** programmes

COMMERCIAL VALIDATION

5 **novel targets** selected for **AstraZeneca's** portfolio

REGULATORY VALIDATION

FDA **approval** of **COVID-19 treatment** identified by BenevolentAI

“We are drowning in a sea of data and starving for knowledge”

Sydney Brenner
The Nobel Prize winner in Physiology of Medicine 2002

DATA FOUNDATIONS

Generating a 360° view of disease biology

Experiments
Assay Data (Binding, Omics Comparison, CRISPR Screens)
Clinical Trial

Literature
Scientific Literature
Patent Literature
Regulatory Documents

OMICS
Genes
Proteins
Isoforms
Transcripts & Variants

Aetiology
Diseases
Symptoms

Biological Systems
Cellular Component
Molecular Function
Biological Process
Mechanism
Pathways

Molecules
Organic Compounds
Preclinical Candidates
Approved Drugs
Antibodies
Other Biologics
Pharmacology
Pharmacokinetics

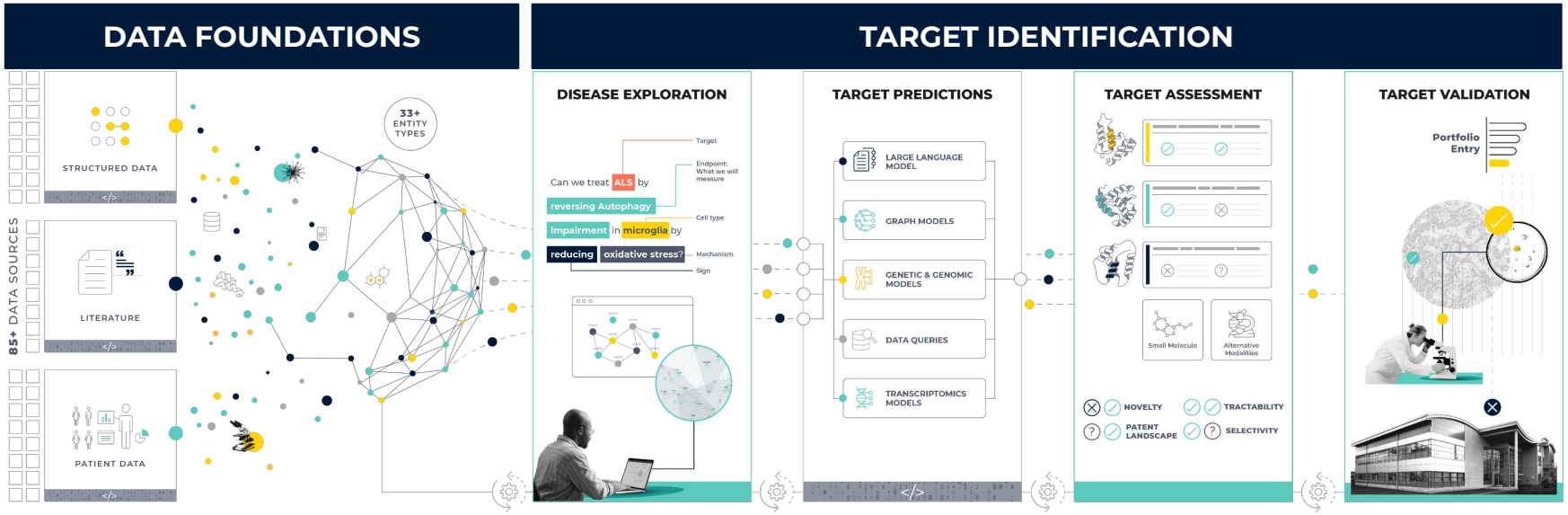
- **Multimodal approach** combines over 85 data sources to provide a holistic view of disease biology
- **Maximise our probability of clinical success** by integrating disease traits, genetics and genomics data to generate endotype-specific target predictions
- **Breaks down silos** across therapeutic areas to connect shared mechanisms across disease
- **Provides a proprietary integrated view of biomedical data** that supports discovery and decision-making

The Benevolent Platform™

Comprehensive data foundations

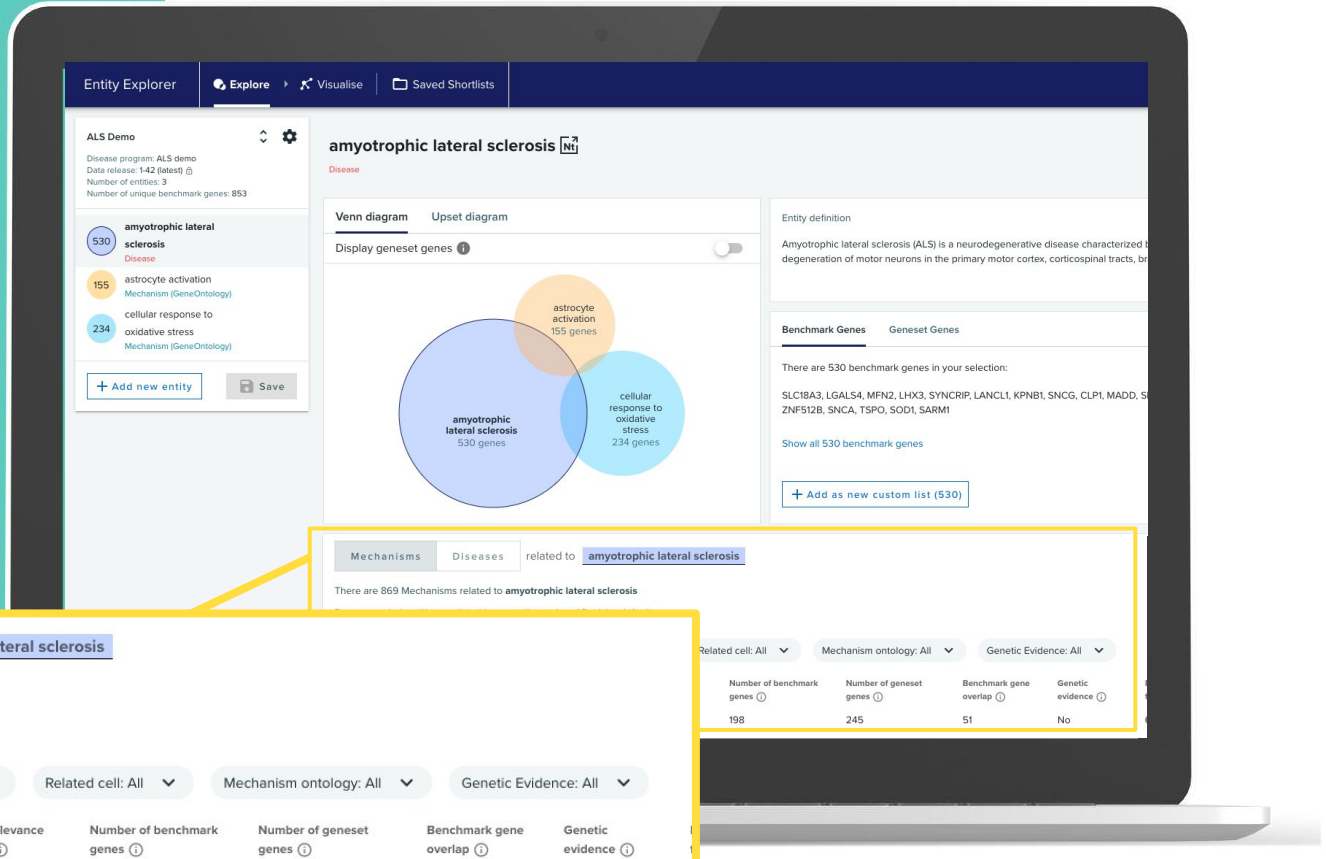
Biology first

Hypothesis driven



DEMO

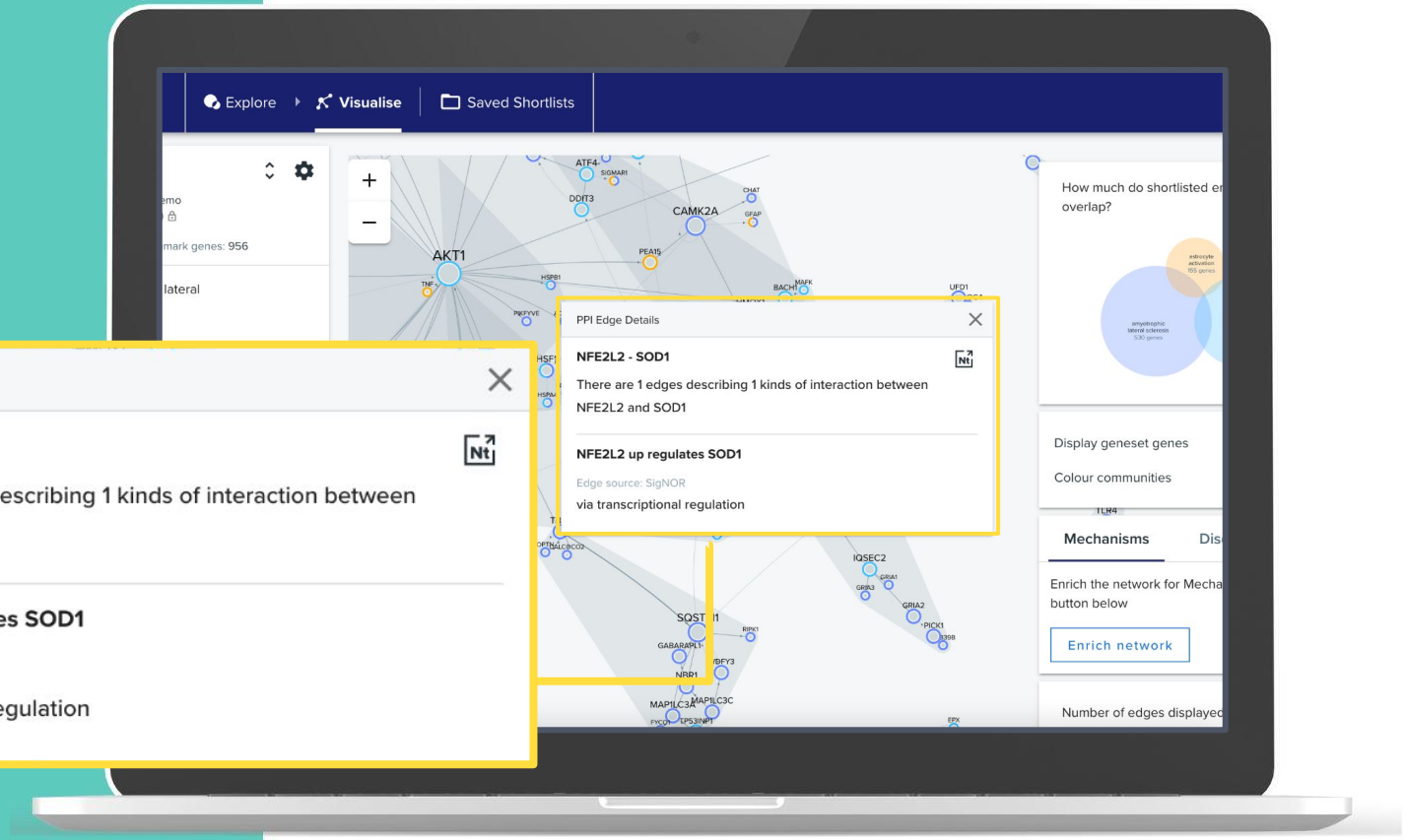
Disease Exploration



DEMO

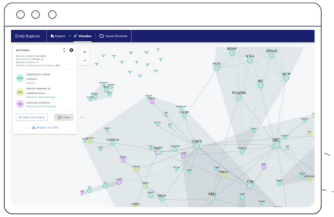
Disease Exploration

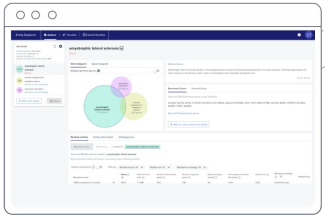
Network View



DISEASE EXPLORATION

Understanding disease biology to build robust hypotheses





Target

Endpoint:
What we will measure

Can we treat **ALS** by

reversing Autophagy

Cell type

impairment in **microglia** by

reducing **oxidative stress?**

Sign

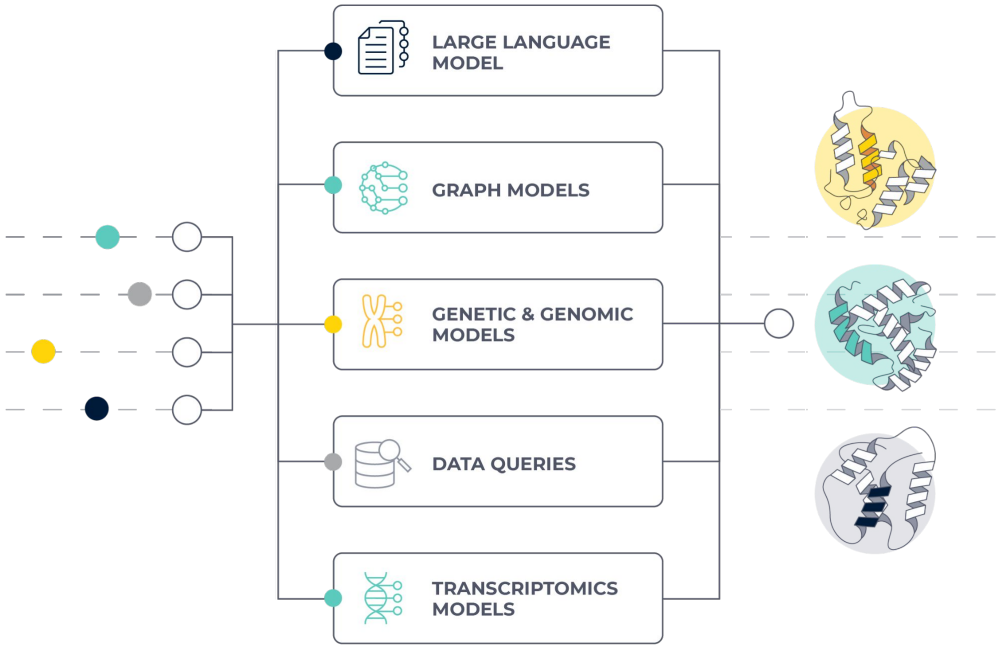
Mechanism

[T] *Your biological question ...*

- Provides an **unprecedented view** of the **disease landscape**
- **Accelerates discovery of novel biology**
- Surfaces potential targets and mechanisms that **may not have otherwise been found**

TARGET PREDICTIONS

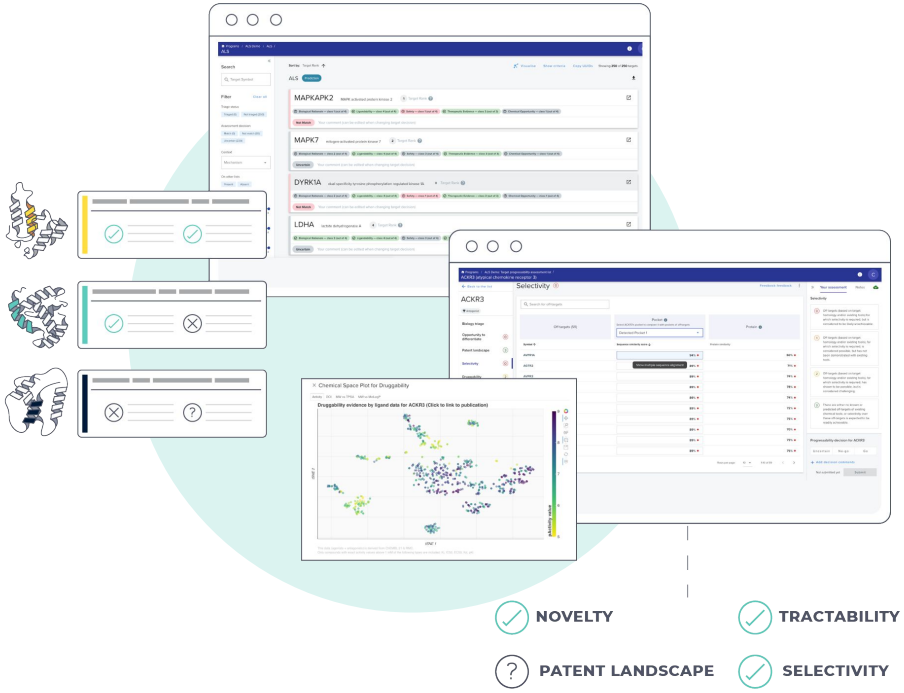
Multiple machine learning models expand the target universe



- **Expands pool of possible targets** by approaching target identification from different angles: some models can rank the entire human genome, others provide promising targets that answer biological questions
- **Reveals novel drug targets** that have never been considered for a disease before
- **Modality agnostic:** the Benevolent Platform™ can be applied to antibodies and other biologic agents, in addition to small molecules

TARGET TRIAGE

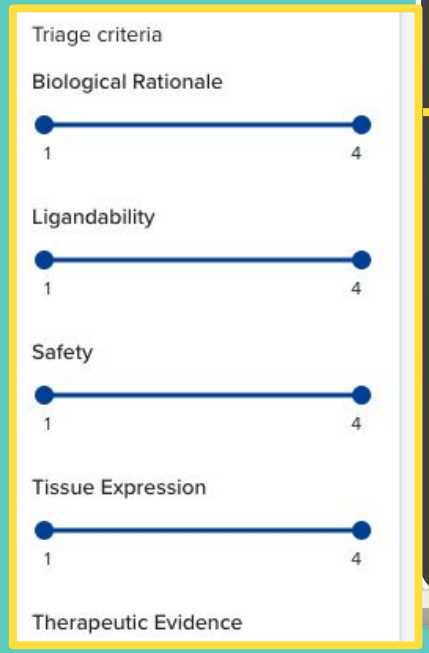
Suite of AI tools enable data-driven decisions

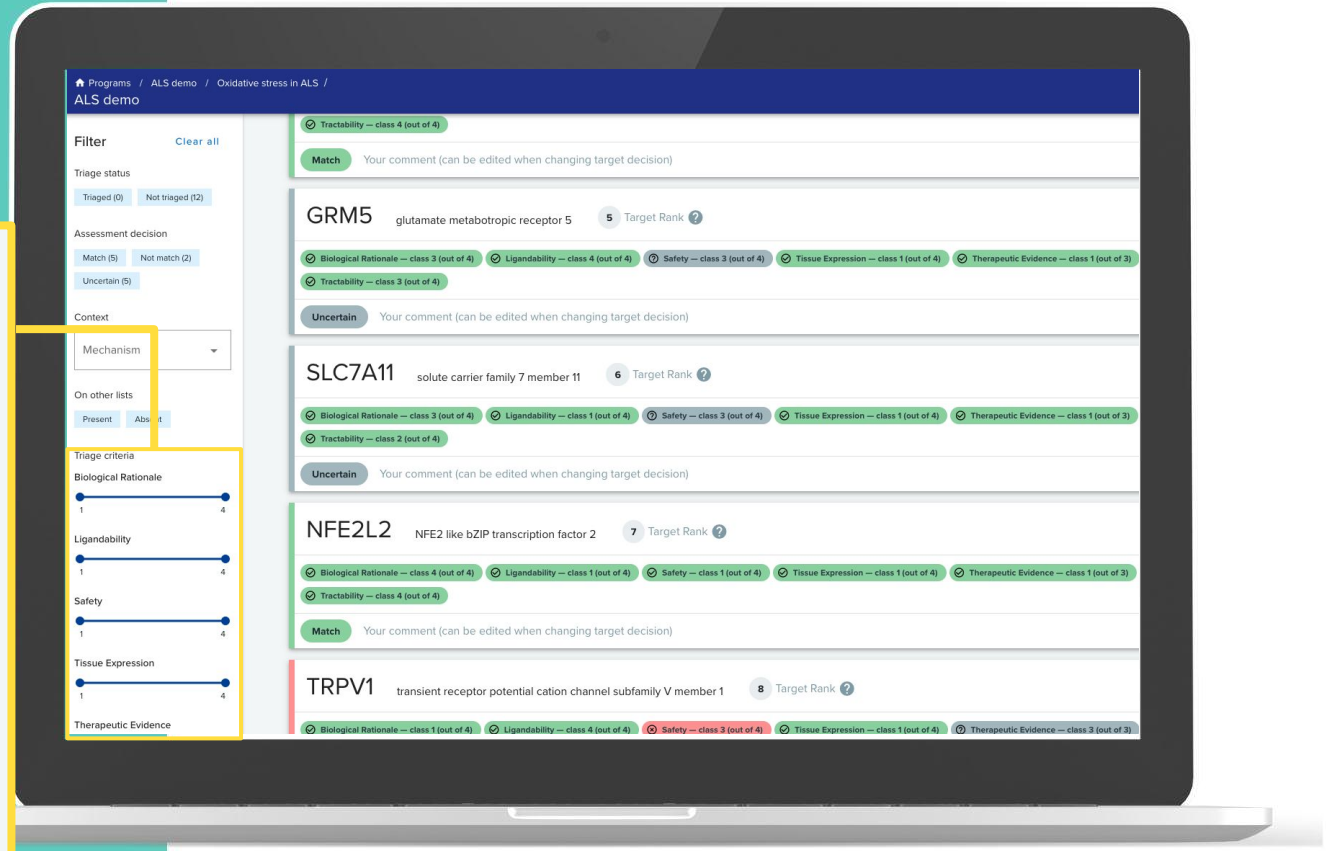


- **Empowers scientists to make data-driven decisions** on which targets to take into experimental validation
- **Scientists can assess key aspects for progressability** including optimal modality, patent and competitive landscape and the druggability and selectivity potential
- **Select targets that are most likely to succeed**

DEMO

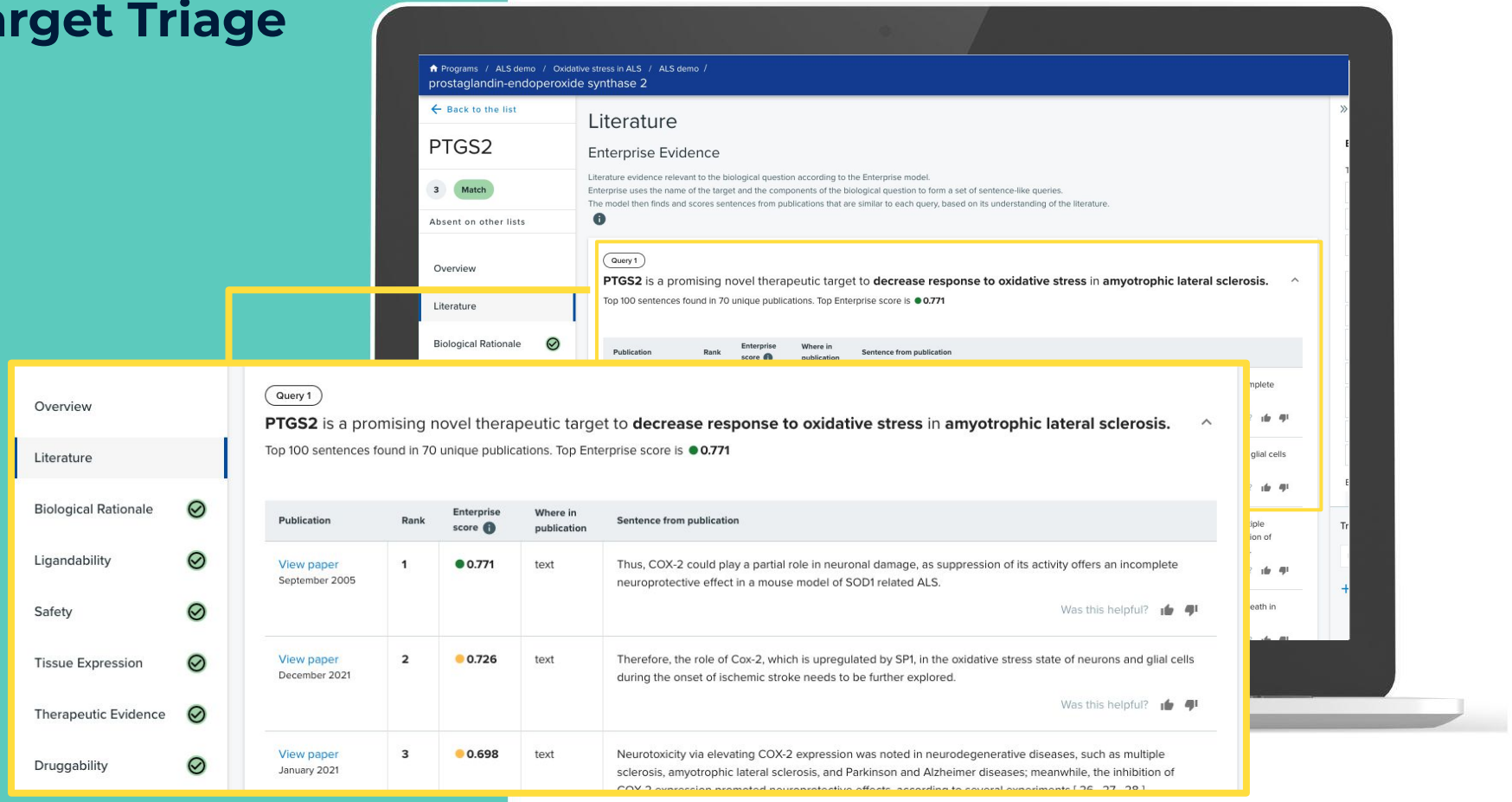
Target Triage





DEMO

Target Triage



TARGET VALIDATION

Advanced in-house lab capabilities move programmes faster

Cutting-edge technologies including invitro / in vico Biology, Chemistry, CMC, DMPK with in-house investment in CRISPR, RNA seq and human iPSC

Work progresses rapidly from in-silico to in-vitro experimental test

The more we do, the more we learn; experimental insights enrich our Knowledge Graph and enhance future target predictions

Proven to enhance drug discovery

DISEASE-AGNOSTIC

We can work on any therapeutic area due to the breadth and diversity of our data foundations.

MODALITY-AGNOSTIC

The Benevolent Platform™ can be applied to antibody and biologic targets, in addition to small molecule targets.

BUILT FOR SCALE

Our scalable and versatile Platform can support multiple in-house drug programmes and commercial collaborations.

ACCELERATES DISCOVERY

By combining our AI Platform, scientific expertise and wet lab facilities, we accelerate discovery and reduce discovery and development timelines.

IDENTIFIES NOVEL TARGETS

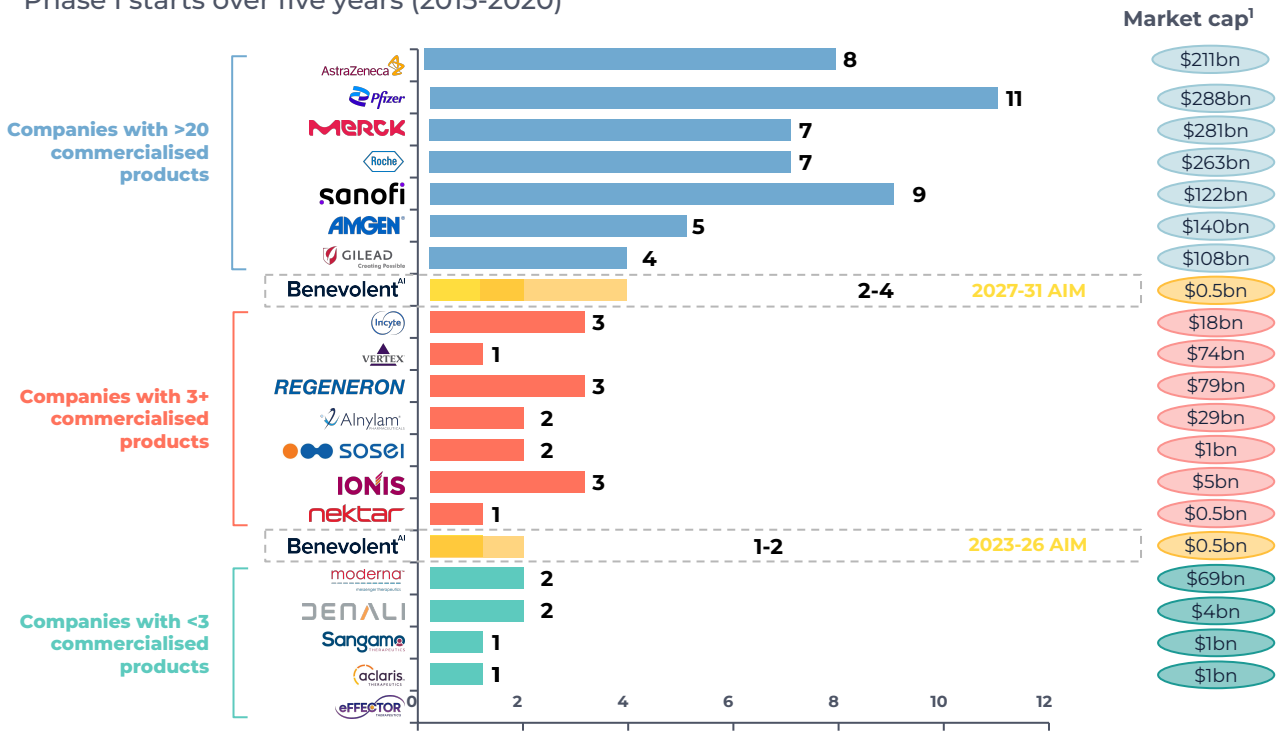
Our predictive tools can surface targets that have never been considered for a disease before.

POTENTIAL TO INCREASE PROBABILITY OF SUCCESS

By building higher confidence hypotheses in the earliest stages of drug discovery, we aim to reduce costly failures down the line.

Our prolific drug discovery engine drives higher productivity

Number of new INDs filed by year by pharma and biotech companies. Median number of Phase I starts over five years (2015-2020)*



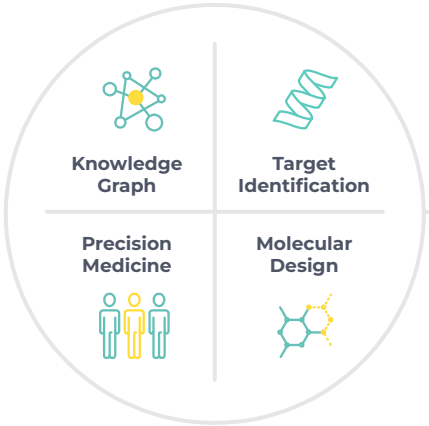
BenevolentAI potential **productivity** is in line with medium and large companies, but at a **fraction of the total cost**.

BenevolentAI will aim to increase the number of INDs from its Platform with incremental cost largely from development through to the clinic only

Note *IND filing rate is based on Phase I trial starts with the company as the lead sponsor. Average adjusted for companies which started clinical development during time period; [1] Market cap as of 30/12/2022 (USD M)

Source: clinicaltrials.gov ; Company websites: L.E.K. research & analysis

Our flexible business model unlocks multiple routes to value creation



A

OWNED PIPELINE

- Platform-generated assets
- In-house development

B

LICENSING

- Platform-generated assets
- Out-licensed at IND, end Phase I or end II

C

PLATFORM COLLABORATIONS

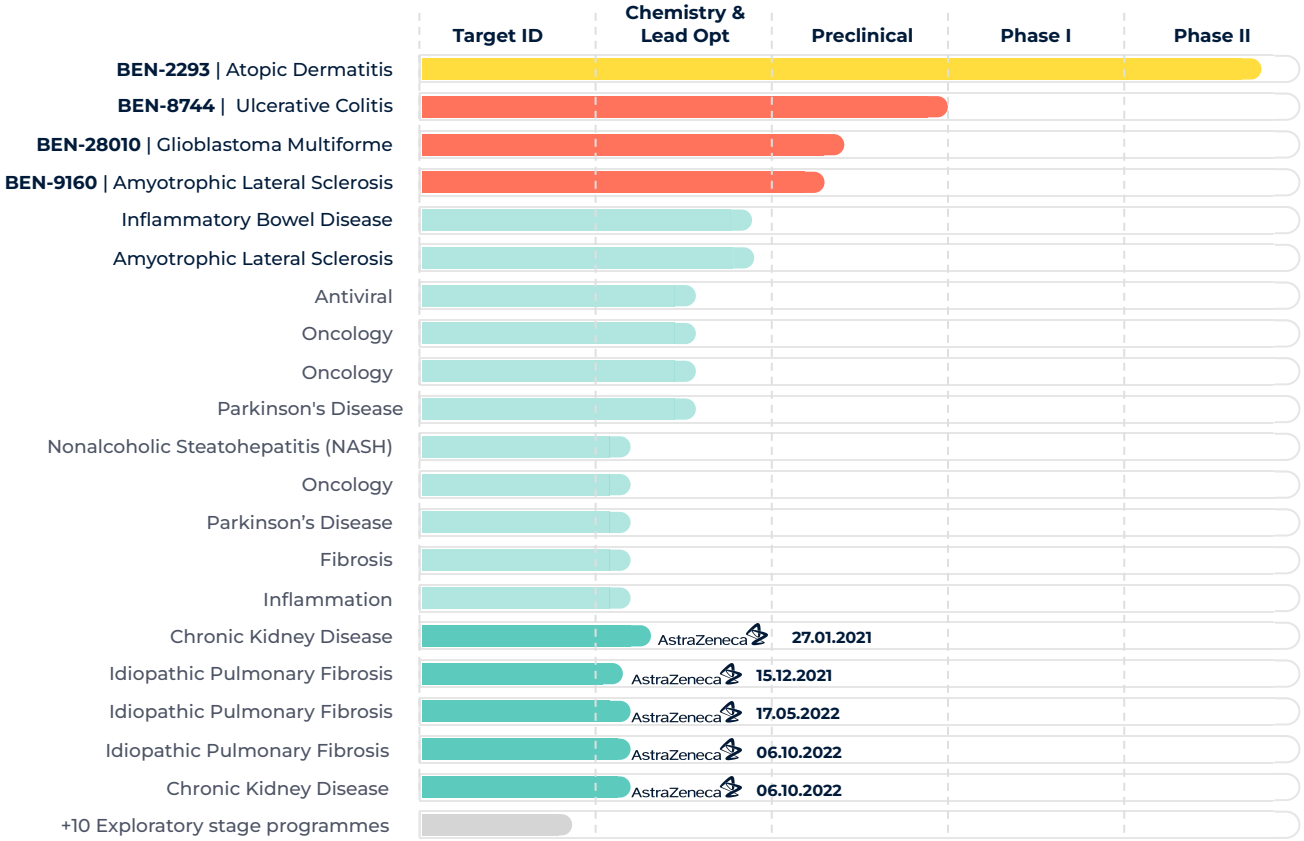
- Economic Benefits
- Platform Validation
- Data generated enriches the Benevolent Platform™

D

NON-COMMERCIAL COLLABORATIONS

- ESG
- Platform Validation
- Data generated enriches the Benevolent Platform™

Robust pipeline entirely generated by the Benevolent Platform™



Highlights

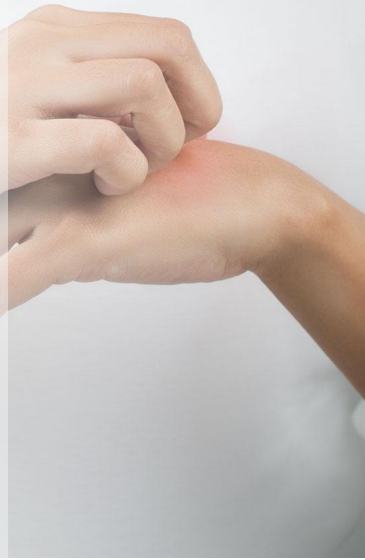
- **BEN-2293** - Phase Ib complete, Phase IIa ongoing
- **BEN-8744** - **Novel target** with zero prior linkage to UC. Delivered **drug candidate within 2 years** from programme initiation
- **All pipeline programmes** generated using the **Benevolent Platform™**

BEN-2293
Atopic Dermatitis (AD)

Topical best-in-class PanTrk inhibitor to relieve inflammation and rapidly resolve itch in patients with AD

- Atopic dermatitis is the **most common chronic inflammatory skin disease**, characterized by intensely itchy, red, and swollen skin[1]
  - Affects **10-20% of children** and up to **3% of adults**[2]
  - Approximately **60-70% of all cases** present with mild-moderate disease severity[3]
  - Prevalence is rising[3], with market value in 7MM **forecast to exceed $14 billion**[2,4]
- Skin inflammation and chronic pruritus associated with atopic dermatitis negatively impact quality of life and psychosocial well-being[1]
- Clear unmet need in **mild to moderate patient** segment for treatment addressing itch and inflammation, without side effects of steroids

- **BEN-2293** is a **PanTrk inhibitor** targeting TrkA,B and C receptors. The Trk receptors were identified as part of an effort to find **mediators of both itch and inflammation in AD**. Using our Molecular Design expertise we were able to design a PanTrk inhibitor, equipotent against the 3 receptors
- BEN-2293 is expected to **treat atopic dermatitis** by: inhibiting **itch signaling** and blocking nerve sensitization (TrkA) in addition to inhibiting Th1 and Th2-mediated **dermal inflammation** (TrkB, TrkC)
- **BEN-2293** will target **Mild, Moderate and Severe Atopic Dermatitis patients**, addressing unmet need in the treatment of mild to moderate Atopic Dermatitis as a steroid sparing alternative and in more severe patients undergoing treatment with systemics (e.g. dupilumab) that require add-on treatment



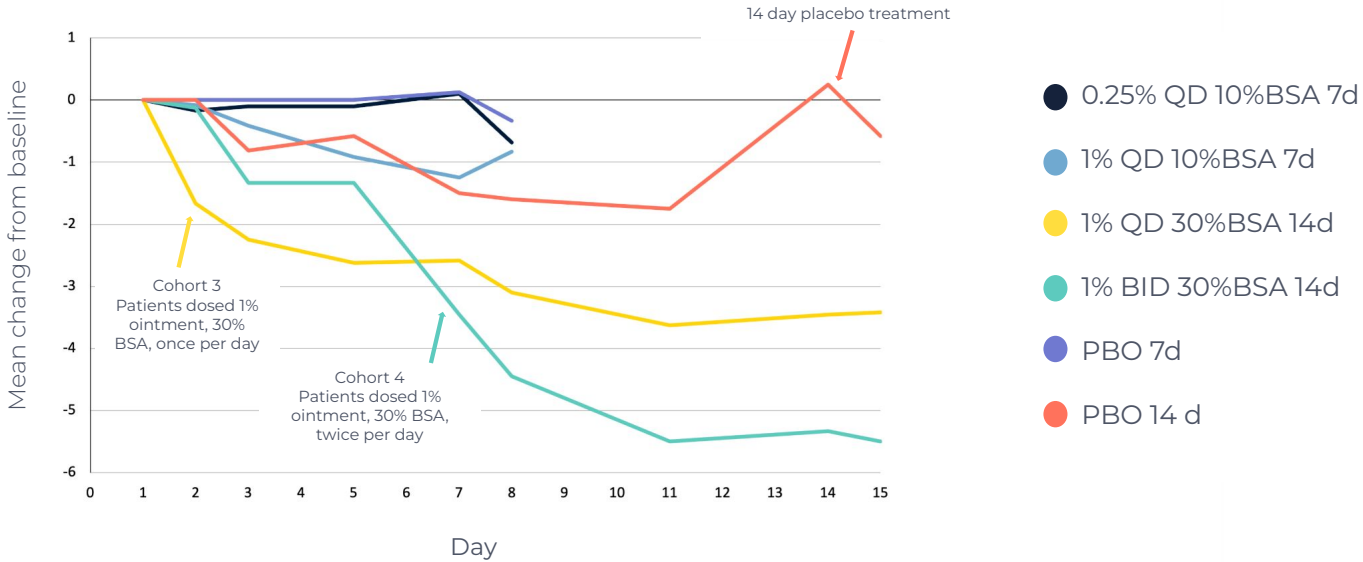
Sources: (1) Weidinger et al. Nat Rev Dis Primers 2018; (2) GlobalData Report 2018: Atopic Dermatitis: Global Drug Forecast and Market Analysis to 2027; (3) GlobalData Report 2018: Atopic Dermatitis: Epidemiology Forecast to 2027; (4) Evaluate Pharma

BEN-2293 - indicative data from Phase Ib

Caveats:

- Phase Ib was **NOT** powered to meaningfully assess efficacy - only 6 patients dosed with active per group
- Maximum duration of dosing 14 days (EASI score changes typically measured at 28 days)

Mean Change from Baseline %BSA affected in treated areas



EASI: Eczema Area and Severity Index

BEN-8744
Ulcerative Colitis (UC)

BEN-8744: Oral, peripherally-restricted, PDE10 inhibitor under development as a first-in-class treatment for refractory UC

Affects 0.4% US population[1], 1.7 million patients in 7MM[1], forecast $7.8bn market by 2026[2]

- **A chronic, lifelong disease** that causes inflammation and ulceration of the inner lining of the colon and rectum
- 64% of patients are mild-moderate, 31% of patients are moderate-severe and 5% of patients are severe-fulminant
- **Efficacy** - 20-40% of Moderate-severe patients do not respond to anti-TNF (main treatment paradigm)[3]
- **Safety** - Treatments have many side effects — from steroids to anti-TNF and JAK inhibitors (black box warnings)[4]
- High unmet need for an alternative **oral** small molecule treatment option with **improved safety profile** and efficacy in treatment of **refractory patients**

- **Phosphodiesterase 10 (PDE10)** was identified by our TargetID platform as **an entirely novel target for the treatment of UC/IBD**
- Using our Molecular Design expertise we optimally designed a best in class peripherally restricted PDE10 inhibitor: **BEN-8744**
- **BEN-8744** is expected to provide an efficacious disease modifying oral treatment for UC/IBD
- **BEN-8744** will target **Moderate and Severe UC/IBD patients**, meeting the unmet need left by existing therapies including:
  - Patients refractory to anti-TNFs or other biologics
  - Improved safety and tolerability profile compared to competitors
  - Aiming to use a Precision Medicine approach to target key responder patient cohorts and avoid the safety risks associated with ineffective therapies

Sources: (1) GlobalData: Ulcerative Colitis, Global Drug Forecast and Market Analysis to 2026; (2) Evaluate Pharma: Gastro-intestinal, Inflammatory bowel disease (IBD), Ulcerative colitis, Worldwide Overview (report 17th Sep 2021); (3) Roda et al. Clin Transl Gastroenterol 2016; (4) Kobayashi et al Nat Rev Dis Primers 2020 and US FDA Drug Safety Communication 2021

Target validation in colon tissue from ulcerative colitis patients

Inflamed colonic mucosa biopsies from UC patients

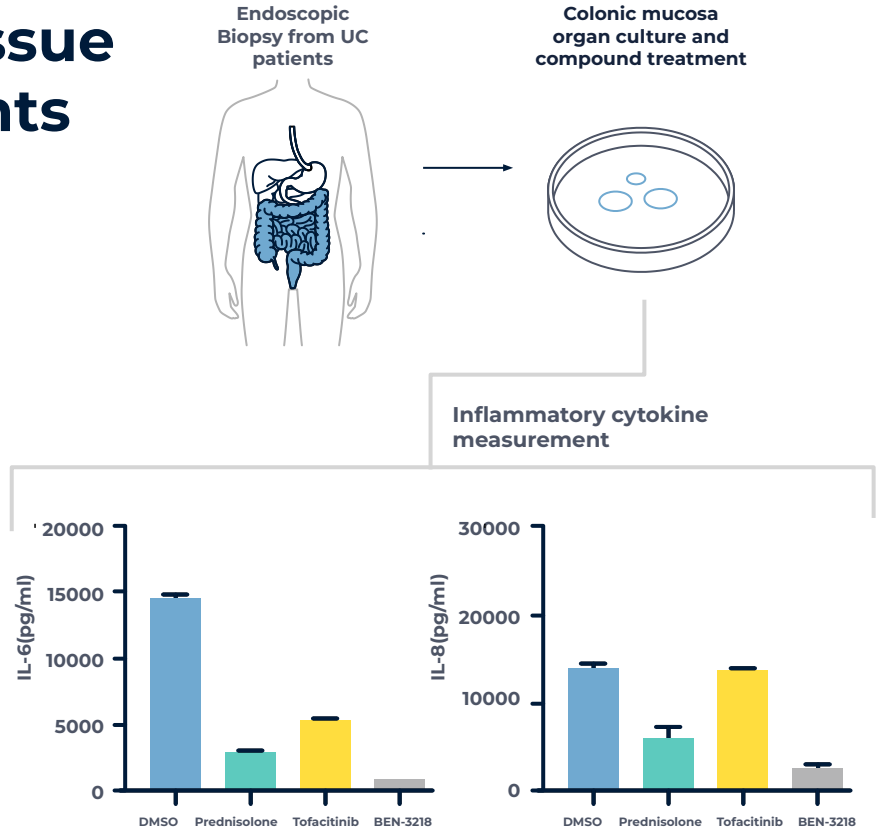
- Disease phenotype retained with high basal cytokine release
- Readouts: IL6 and IL8 - key mediators of UC pathology

Tissue samples treated with:

- Target-selective tool compound (BEN-3218)
- Positive controls – prednisolone and tofacitinib

Selective target inhibition showed comparable reduction of IL-6 and IL-8 to the positive controls

Validated as a target with a novel mechanism of action for ulcerative colitis



BEN-8744 results and progress to date

TARGET IDENTIFICATION

Novel target for UC

✔ Discovered using Benevolent **TargetID tools**

✔ PDE10 has **zero linkage to UC** in all available biomedical literature

✔ Experimentally **validated in ex-vivo** UC colon samples from patients refractory to SoC treatment

CHEMISTRY

Rapid and efficient lead optimisation

✔ **Molecular Design tools** enabled rapid and efficient lead optimisation

✔ **Candidate nominated in Sep '21** Novel, potent, selective,peripherally restricted PDE10. Inhibitor, with low dose prediction

✔ Delivered drug candidate within **2 years** from programme initiation

CLINICAL DEVELOPMENT

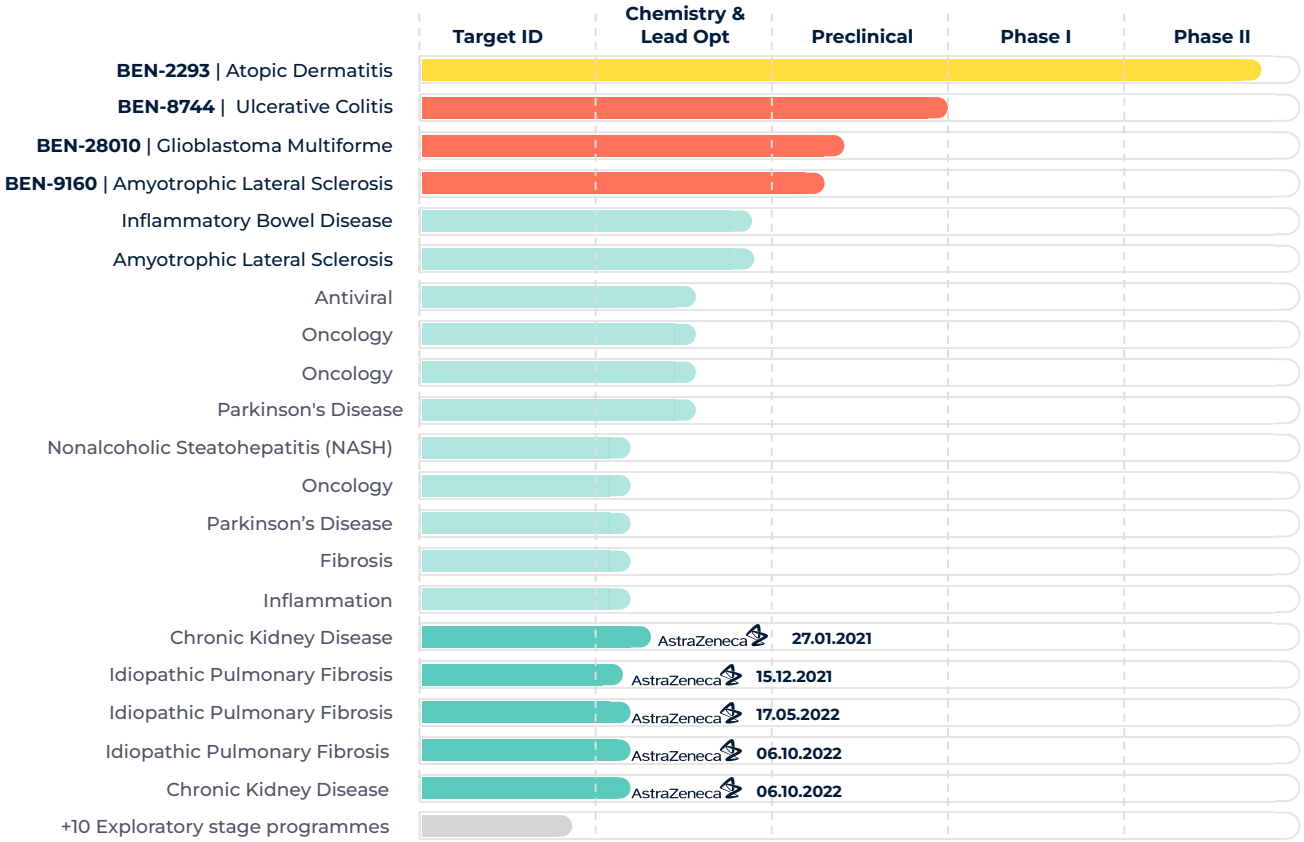
Developing responder and progression endotypes

✔ We will develop responder and progression endotypes**, adding molecular descriptors**

✔ These will inform our trial design, **patient selection** and further target identification in UC

✔ Augmenting a further loop of iteration on an enriched graph

Robust pipeline entirely generated by the Benevolent Platform™



Highlights

- Focus on **complex multifactorial diseases**
- **Broad therapy area coverage** enabled by disease-agnostic Platform, with future investment to focus on three therapeutic indications
- **Balance of risk** between "**best in class**" and "**first in class**" drug candidates
- Potential for **rapid scaling** and expansion into **new modalities**

Strategic validation: successful collaboration with AstraZeneca

Multi-year Target-ID collaboration is delivering multiple, novel targets for complex diseases with high unmet need

Separate data environment established to integrate AstraZeneca's data into a bespoke Knowledge Graph

BenevolentAI and AstraZeneca teams working in close collaboration to explore, identify and validate targets

Deal structure of upfront license fee, milestone payments and downstream royalties

Data generated via the collaboration enriches the Benevolent Platform™

AstraZeneca

Five novel targets selected for AstraZeneca's portfolio to date

2019

Initial deal focussed on Chronic Kidney Disease & Idiopathic Pulmonary Fibrosis

2022

3-year collaboration expansion to include Heart Failure & Systemic lupus erythematosus

Using our platform for wider societal benefit

Identified a COVID-19 treatment now approved for use by the FDA

RAPID
Identified baricitinib as a treatment in just **48 hours**, published research in The Lancet in Feb 2020

NOVEL
Our technology and AI workflows identified a **previously unknown antiviral mechanism**[1]

EFFECTIVE
COV-BARRIER trial showed baricitinib reduces mortality by 38% in hospitalised patients[2], and by **46% in ventilated or ECMO patients**[3]

FDA

FDA approved the baricitinib to treat COVID-19 in **May 2022**[4] after first granting EUA in **Nov 2020**[5]

Lilly

Led to equity investment from Eli Lilly

DNDi
Drugs for Neglected Diseases *initiative*

Non-commercial collaboration

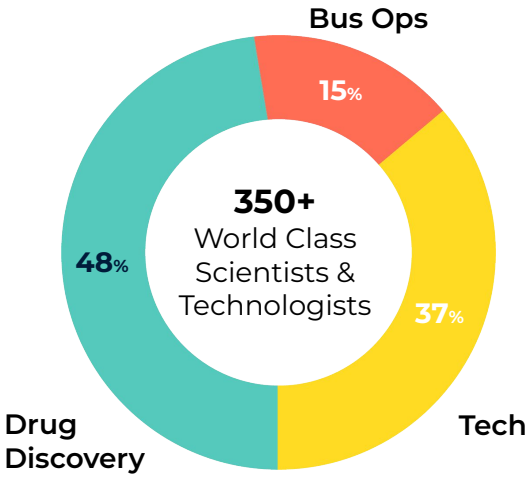
→ Focused on Dengue fever - a major healthcare burden

→ Aims to deliver biological targets and drug repurposing candidates

→ Experimental validation in progress - 6 assays

World-class team

We "build tech in the service of science"



Board of Industry Luminaries

Combines deep expertise across AI, pharma, & drug discovery & development

Baroness Joanna Shields
CEO & Executive Director

François Nader
Chairman

Susan Liautaud
Non-Executive Director

Olivier Brandicourt
Non-Executive Director

Jean Raby
Non-Executive Director

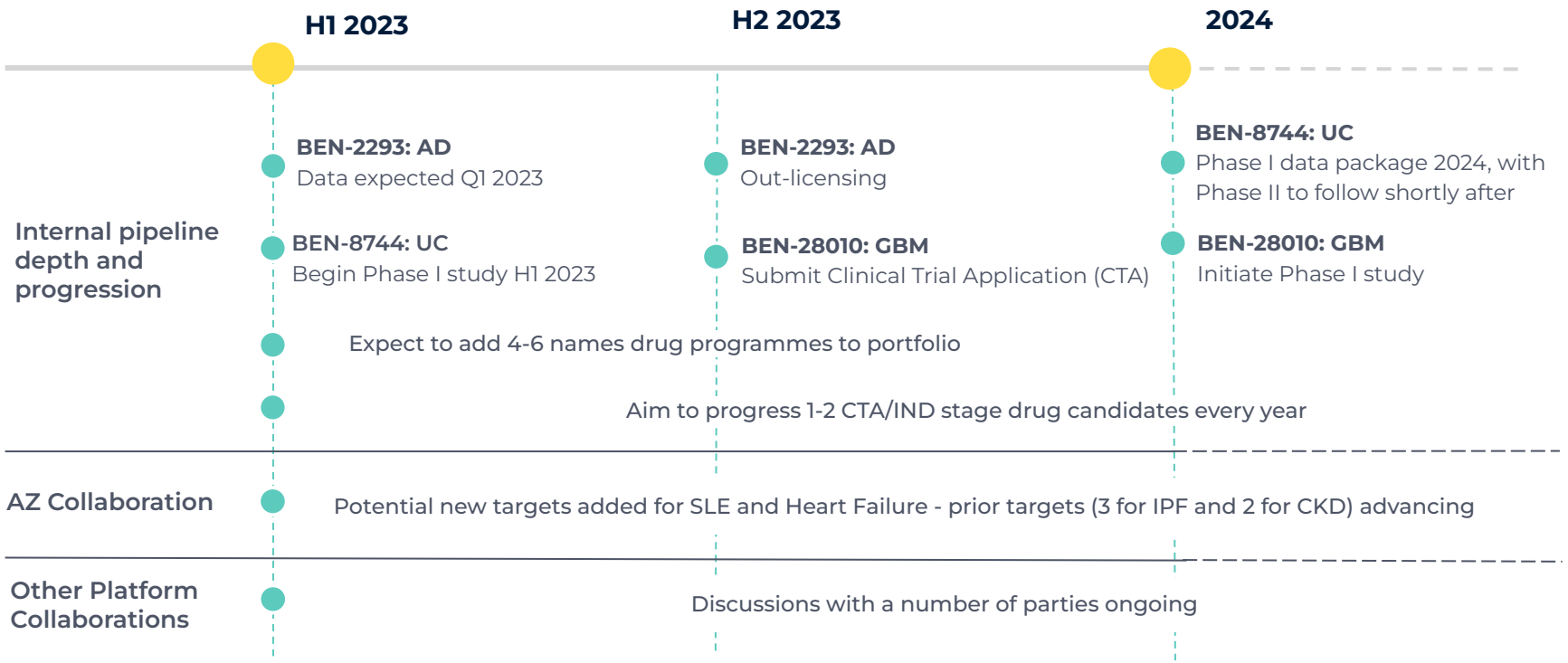
Jackie Hunter
Non-Executive Director

Nigel Shadbolt
Non-Executive Director

John Orloff
Non-Executive Director

As of December 2022

Poised for growth: multiple value inflection points



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