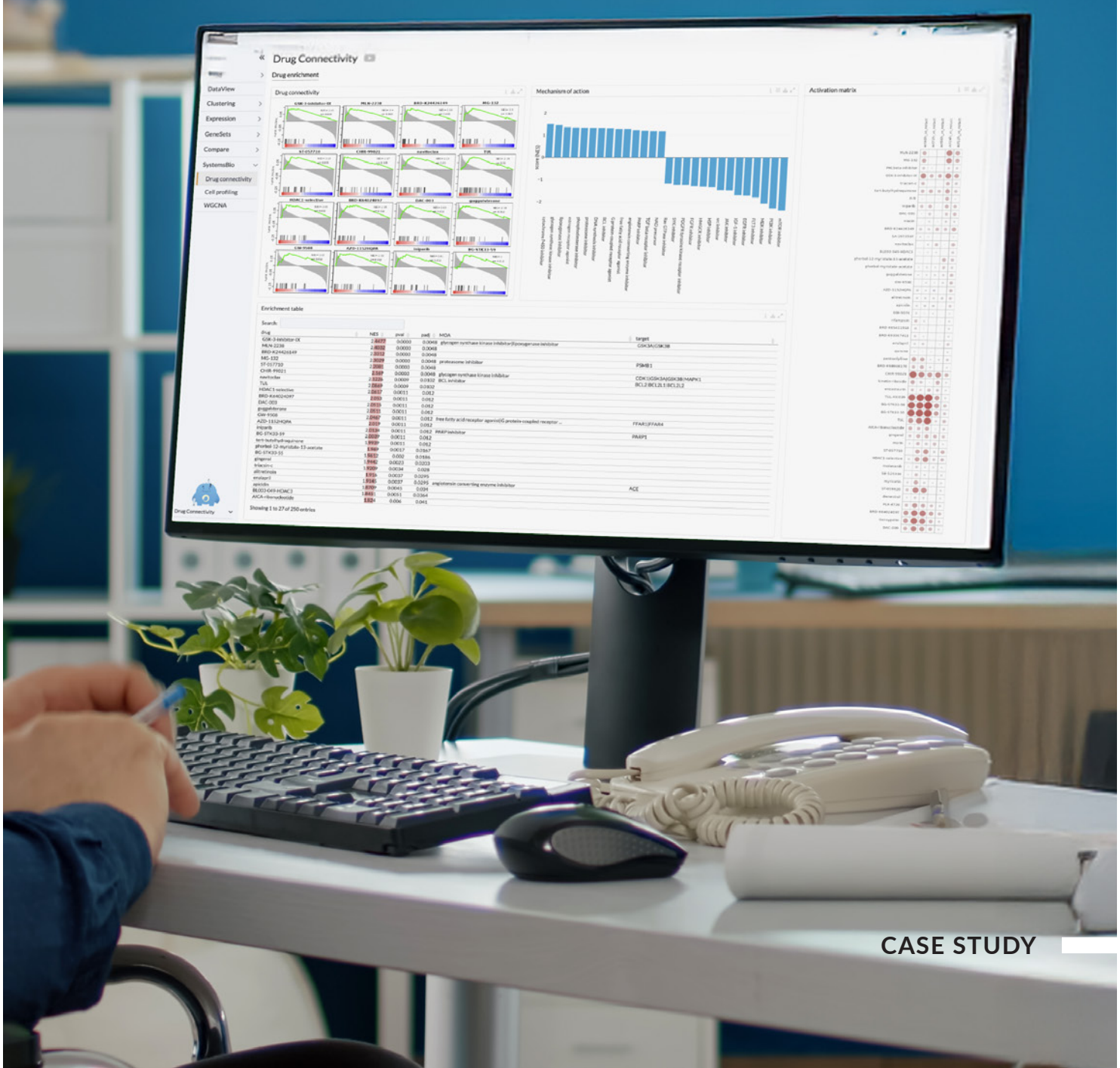
BigOmics Analytics®

Parabilis MEDICINES

# Streamlined Proteomics and Transcriptomics Data Analysis for Drug Discovery in Oncology




CASE STUDY

# CASE STUDY

**STREAMLINED PROTEOMICS AND TRANSCRIPTOMICS DATA ANALYSIS FOR DRUG DISCOVERY IN ONCOLOGY**

**Field: Cancer Drug Discovery**
**Location: Cambridge, Massachusetts**

# CLIENT PROFILE

Parabilis Medicines, formerly known as Fog Pharmaceuticals, is a clinical-stage biopharmaceutical company developing innovative medicines that can achieve extraordinary outcomes for people affected by severe diseases.

Using its proprietary Helicon™ platform, Parabilis designs cell-penetrant drugs capable of binding flat intracellular protein surfaces – a capability that allows them to engage "undruggable" targets. By combining advanced data science, biology, and chemistry, the company pioneers new degrader therapeutics to treat cancers driven by transcription factors and other difficult-to-target proteins.

# CHALLENGES

- **Expanding data scale:** Transitioning from cell-based to in vivo studies increases data complexity, with RNA-seq and proteomics collected across multiple tissues and tumor models.
- **Manual analysis workflows:** Excel-based data exploration limits biological interpretation and makes cross-study comparisons cumbersome.
- **Dependence on bioinformatics skills:** Waiting for figures and results produced by bioinformaticians can slow hypothesis generation.
- **Lack of systematic comparison:** Comparing studies or compounds in a consistent, high-level view can be difficult and time-consuming.

# SOLUTION

Implement **Omics Playground** so that Parabilis's scientists can analyze and interpret transcriptomic and proteomic data directly, quickly compare studies, and explore biological pathways and biomarkers without relying on coding expertise.

# RESULTS

- **Faster analysis:** Reduce the time to review and interpret a massive volume of data from a full day to under 30 minutes.
- **Cross-study comparisons:** Easily move between different datasets and experimental models.
- **Empowered scientists:** Biologists can now interpret data independently and rapidly form new hypotheses.
- **Consistent data standards:** Unified file formats improve reproducibility and collaboration across teams.

BigOmics® Analytics

« BigOmics has been instrumental in allowing us to move between datasets, compare results across models, and understand changes at both the gene and pathway level. What once took us a day we can now do in half an hour. »

**AMELIA LUCIANO**
ASSOCIATE DIRECTOR OF BIOLOGY
PARABILIS MEDICINES

# INTRODUCTION

**We spoke to Amelia Luciano, Associate Director of Biology at Parabilis Medicines, who leads a discovery biology team within Parabilis's oncology research, analyzing CDX and PDX models. Her team focuses on a first-in-class degrader targeting the ERG transcription factor, a key oncogenic driver in prostate cancer.**

After adopting Omics Playground, Amelia and her colleagues could immediately explore complex multi-omics datasets, including transcriptomics and proteomics.

## FROM SPREADSHEETS TO SYSTEMATIC DATA EXPLORATION

Before adopting Omics Playground, the biology team analyzed results manually.

"Everything was done in Excel or internal databases," Amelia recalls. "You could look at a few genes, but you lost sight of the broader biology. We couldn't easily connect our datasets or compare across studies."

As Parabilis's data volume grew, relying solely on bioinformatics specialists became impractical. Researchers needed tools that would let them visualize data and interpret results themselves.

## ADOPTION AND IMPACT

A member of the proteomics team introduced Omics Playground after extensive evaluation of other platforms. The user-friendly interface and ability to handle large datasets made it an immediate success.

"BigOmics was one of the easiest tools to learn. You can upload data, explore gene sets, and get meaningful results in minutes."

The biology team now uses Omics Playground to:

- Compare the **effects of different compounds** across tumor models
- Compare new data sets with any other data in your library, to test and compare multiple compounds
- Study **mechanisms of action** and **downstream pathways** of the ERG degrader
- Identify **candidate biomarkers** for clinical development
- Assess **on- and off-target toxicity** across tissues

"I think if you have multiple data sets and you want to compare across data sets, this platform is unmatched. We use BigOmics to generate novel hypotheses, and investigate whole pathways, not just one or two proteins. BigOmics not only shows what's happening with one or two proteins, but whether whole pathways are upregulated or downregulated."

## COLLABORATION AND CONSISTENCY

Omics Playground standardizes how data is analyzed and shared across departments. Every dataset follows the same upload and analysis pipeline, ensuring consistent formats and easy access.

"Before, each dataset looked different. Now everything follows a single format, and anyone with a license can open and explore the data."

This consistency improves communication and reduces repetitive analysis cycles. The shared access also encourages collaboration between scientists and bioinformaticians.

"Our proteomics expert is now exploring biology questions himself. It's helped everyone grow beyond their main area of expertise."

## LOOKING AHEAD

As Parabilis advances its ERG degrader program towards clinical testing, Omics Playground remains a key part of the company's discovery pipeline. The platform supports the team's ongoing biomarker identification work and new studies focused on safety and translational biomarkers.

BigOmics® Analytics

« Omics Playground has given us some new hypotheses in terms of the function of our compound. It helps us quickly see which effects are on-target or off-target. We're now also using it to explore toxicity profiles. »

**AMELIA LUCIANO**
ASSOCIATE DIRECTOR OF BIOLOGY
PARABILIS MEDICINES

# BIGOMICS SOLUTIONS

## CENTRALIZED, COST-EFFECTIVE DATA ANALYSIS STREAMLINES SCALING AND IMPROVES PRODUCTIVITY

- Access to **more than 50,000 public gene sets and pathways** such as GO, Reactome, Hallmark, and MSigDB.
- Integration with **drug connectivity and sensitivity databases** containing over 30,000 expression profiles.
- **Peer-reviewed algorithms** for RNA-seq and proteomics deliver reliable and transparent results.
- All omics data stored in one place, reducing redundant analyses and saving valuable research time.
- New datasets can be compared with previous results and over 6,000 public datasets, providing context for discovery.

## INTERACTIVE VISUALIZATIONS GIVE LEADERS A 360-DEGREE VIEW OF R&D PROGRESS

- Omics Playground allows teams to monitor results across ongoing projects while maintaining a full overview of research progress.
- Consistent data formats improve reproducibility and enable faster, more confident decision-making.
- Scientists can interpret their own data, avoiding repetitive analysis loops.
- Bioinformatics resources are conserved, enabling faster response to new projects.
- Teams share the same view of data and can present results directly from the platform in discussions or meetings.

## Want to see it for yourself?

BOOK A LIVE DEMO

bigomics.ch
hello@bigomics.ch

BigOmics® Analytics