

## A GOBIOM Case Study



MicroRNAs as
Biomarkers for
Drug Resistance
and Response to
Therapy in Cancers

#### The Purpose

- To predict and analyze miRNAs indicative of treatment response and drug resistance in various cancers through heat-map analytics.
- To identify the decisive miRNAs and position them as potential therapeutic targets in the area of oncology.

## **About the Client**



**Company** Biotech



**LOCATION** Europe



THERAPEUTIC AREA
Oncology

### **Client Specification**

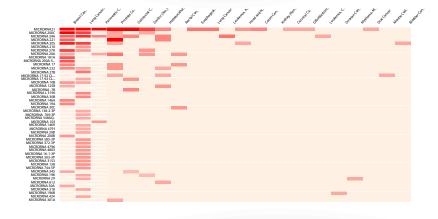
To identify miRNAs associated with the sensitivity of two cancers against an IND.

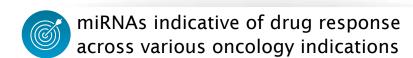
#### The Excelra Approach

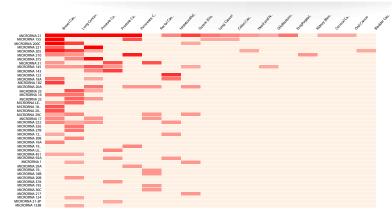
- To expedite, heat-map analytics was chosen in GOBIOM.
- Heat-map analytics was used to draw forth the list of potential miRNAs indicative of response to the therapy and drug resistance by plotting miRNAs against various oncology related indications.
- The list of drugs showing disease resistance was obtained by plotting drugs against various miRNAs across different indications.



miRNAs indicative of drug resistance across various oncology indications

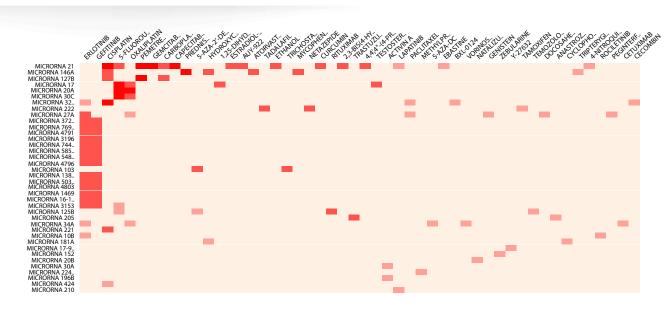








miRNAs indicative of drug resistance across various drugs in oncology therapeutics



#### Excelra's Contribution

Predicted miRNAs to categorize cancers into drug-sensitive and/or resistant buckets.

Further ranked cancers as per their drug sensitivity scores.

Few relevant genes and their expression pattern were also identified.

The miRNAs associated with the sensitivity of an IND may be used as a biomarker to predict a response.

Targets and major functions impacted by the miRNAs could be identified.

# Excelra's Service Portfolio

#### Insights Data Data Science Driven Drug Discovery Chemistry Curation Services Discovery Target Identification GOSTAR Structure Activity Relationship database Target Dossier Services Biomarker Discovery Biology Curation Services Drug Repositioning **Translational** GOBIOM Life Cycle Management Biomarker intelligence database Systems Biology Informatics Precision Oncology Informatics Clinical Clinical Trial Outcomes Database Clinical Pharmacology Outcomes Research RWE & Big Data Realization Epidemiology Modelling SLR & Meta-analysis Value Evidence Economic Modelling Value Evidence Communication Enterprise Data Strategy **Technology** Enterprise Cloud Ops Solutions Enterprise Digital Transformation

For more information, visit https://www.excelra.com/translational/#gobiom



#### About Excelra

Excelra's data and analytics solutions empower innovation in life sciences across the value chain from discovery to market. The Excelra Edge comes from a seamless amalgamation of proprietary curated data assets, deep domain expertise and data science. The company's multifaceted teams harmonize and analyse large volumes of disparate unstructured data using cutting-edge technologies. We galvanize data-driven decisions to unlock operational efficiencies to accelerate drug discovery and development. Over the past 18 years, Excelra has been the preferred data and analytics partner to over 90 global clients, including 15 of the top 20 large Pharma.