The Purpose
The partner had a large molecule in the development pipeline for cancer indications. They were interested in combining their proprietary molecule with already approved immune check-point inhibitors to improve therapeutic efficacy.

About the Client
INDUSTRY
Biotech
LOCATION
Europe
THERAPEUTIC AREA
Oncology

Client Requirement
To prioritize cancer indications based on their sensitivity towards the combination of the biologic with a check point inhibitor (anti-PD-1/PDL-1). Publicly available data on successful and failed drug combinations was used for building predictive models.

The Excelra Approach
Machine learning models were built using to assess the sensitivity of cancer indications as well as patients to the drug combination. Based on the analysis, some cancer indications were prioritized for further assessment. A biological hypothesis was built to establish the synergistic role of the combination partners for cancer treatment.
Excelra’s Contribution

Feasibility/synergy prediction of the two-drug combination. Custom pathways were generated to understand crosstalk between the drug-induced signaling and checkpoint inhibitor signaling pathways.

Prioritize the indication where indication therapy with PD-1 will work the best.

Widen the list of indication where the query drug may be developed.

Indications resistant or were partially sensitive to the monotherapy were predicted to be sensitive towards combination with the checkpoint inhibitor.

Excelra’s Service Portfolio

**Insights**
- Science Driven Drug Discovery
  - Target Identification
  - Target Dossier Services
- Biomarker Discovery
  - Life Cycle Management
  - Systems Biology Informatics
- Precision Oncology Informatics
- Clinical Pharmacology

**Data**
- Chemistry Curation Services
- GOSTAR - Structure Activity Relationship database
- Biology Curation Services
- GOBIOM - Biomarker intelligence database
- Clinical Trial Outcomes Database
- RWE & Big Data Realization
- SLR & Meta-analysis

**Value Evidence**
- Outcomes Research
- Epidemiology Modelling
- Economic Modelling
- Value Evidence Communication

**Technology Solutions**
- Enterprise Data Strategy
- Enterprise Cloud Ops
- Enterprise Digital Transformation

For more information, visit [https://www.excelra.com/clinical/#precision_oncology](https://www.excelra.com/clinical/#precision_oncology)

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. They 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.

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