

Life Sciences Bioinformatics

A bioinformatics firm providing statistical analysis and data mining of complex biological datasets for drug development.



PROJECT:

Advances in bioinformatics for kinase targets in oncology

TECHNOLOGICAL BASELINE

Kinases were well-characterised cancer drivers, and large public resources such as TCGA, CCLE, DepMap and GENIE provided extensive genomic and expression data.

However, integrating these heterogeneous datasets to systematically identify and prioritise selective kinase targets remained complex, with existing tools offering fragmented, labour-intensive workflows rather than an end-to-end, target-focused pipeline.

TECHNOLOGICAL UNCERTAINTY

It was uncertain how to design a computational pipeline capable of reliably integrating multiple large databases and extracting accurate, comparable mRNA and related biomarker signals for kinase targets across cancer types.

There was also uncertainty over whether bioinformatically prioritised kinases would prove selective and efficacious in preclinical models, given biological variability, off-target risks and the potential for resistance.

TECHNOLOGICAL ADVANCE

- The company developed and refined a data collection and analysis pipeline to systematically mine TCGA, CCLE, DepMap and GENIE alongside proprietary datasets, with quality control and exploratory analyses focused on kinase-related expression patterns.
- Prioritised kinase targets were then taken through in vitro and in vivo validation, using techniques such as functional assays and genetic perturbation to test their role in cancer cell survival and proliferation.
- Through iterative data analysis and experimental feedback, the project demonstrated that several kinase targets met predefined selectivity and efficacy criteria, advancing methods for integrated target discovery and contributing to precision oncology strategies.

About ABGi

ABGi is a professional services and consulting business, dedicated to helping UK companies accelerate and fund their innovation strategies. We help our clients unlock government incentives that fuel innovation. Our services cover a range of funding opportunities designed to support businesses at every stage of their innovation journey.