

CONTINUOUSLY-UPDATING PIPELINE PRIORITIZATION PLATFORM

A client was interested in prioritizing their preclinical pipeline to determine which assets to bring forward into Phase I clinical trials

SITUATIONAL ANALYSIS

- A client sought to leverage a number of technologies utilizing small molecules to stimulate immune responses against proteins over-expressed by various tumor types
- The client had identified a number of molecules to bring forth into clinical trials; targets included:
 - HER-1/EGFR, VEGF, PD-L1/PD-1, etc.
- Additionally, the client wished to further biologically validate the most optimal pipeline candidates
- Determining the commercial opportunity for each target, tumor type, and market was crucial for prioritizing the client's development pipeline

SOLUTION

To prioritize the client's development pipeline, we developed a customized dashboard that continually:

- Identified and validated new potential uses of target, pathway, disease and drug candidates
- Estimated costs of clinical trials per indication and estimated likelihood of success (based on historical trials)
- Monitored marketed competitors and identified those in development by indication, target, and market, and determine market size and value

Innoplexus three step approach provided biological validation, estimated clinical trial costs potential / risk, and commercial evaluation

1. BIOLOGICAL VALIDATION

Leveraging Innoplexus CAAVTM technology and all publicly available papers, congresses, etc., we identified all potential uses of the client's developed targets

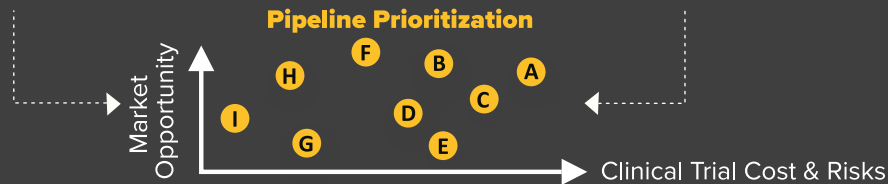


2. CLINICAL TRIAL VALUATION

Innoplexus evaluated all competitor clinical trials to determine the estimated duration & sample size needed for regulatory approval, and developed a model to estimate the clinical trials costs & risks

3. COMMERCIAL EVALUATION

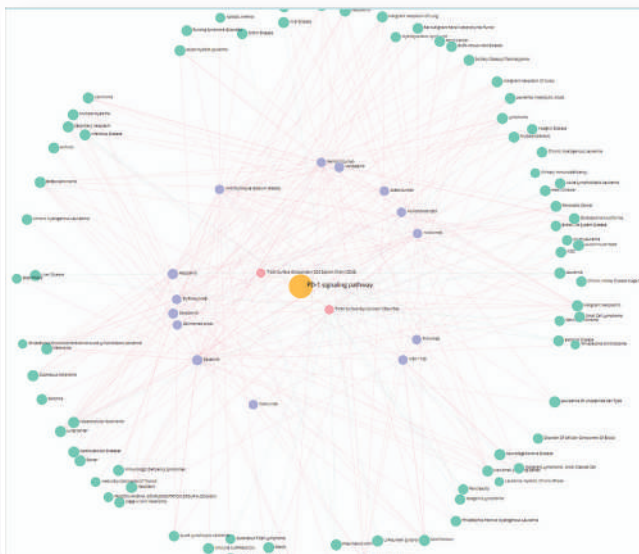
Using company reports and third-party data, Innoplexus estimated the market potential based on sales of approved agents in the diseases and anticipated future levels of competition



Identification of new opportunities for drug candidates

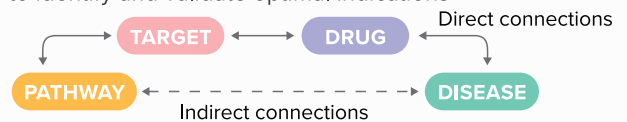
Innoplexus solutions connected disparate concepts and less researched disease pathways

Network Map of Targets, Diseases, Drugs Associated with PD-1 Signaling Pathway



INNOPLEXUS TECH OVERVIEW

- Using Innoplexus CAAVTM technology with our self-learning life science-specific ontology we identify and link various concepts from the public literature domain while reducing noise
- Providing a real-time exhaustive research library on demand to identify and validate optimal indications



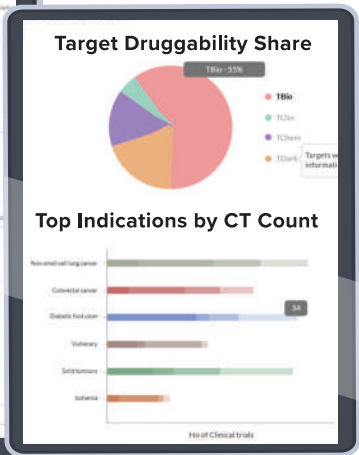
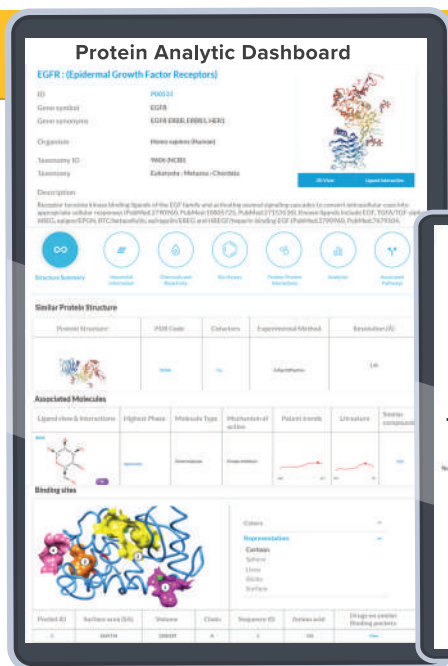
BENEFITS

By identifying therapeutic areas that are currently underserved by available drugs for pathways of interest, the client:

- Prioritized clinical trial efforts, focusing on the optimal pathway of intervention, as determined by druggability scores
- Streamlined pre-clinical research

Validating the biological activity of client's drugs

Using a custom protein analytics platform, based on Tanimoto algorithms and optimal molecular docking analyses



INNPLEXUS TECH OVERVIEW

Leveraging public information on protein structures, Innoplexus technology models protein-protein interactions and assesses theoretical binding affinities

- Public information sources: PDB, ChEMBL, Uniprot, Pharos, Pfam, Proteopedia, etc.
- Public information contains protein sequence, structure, function, family classification, active site, domain & druggability



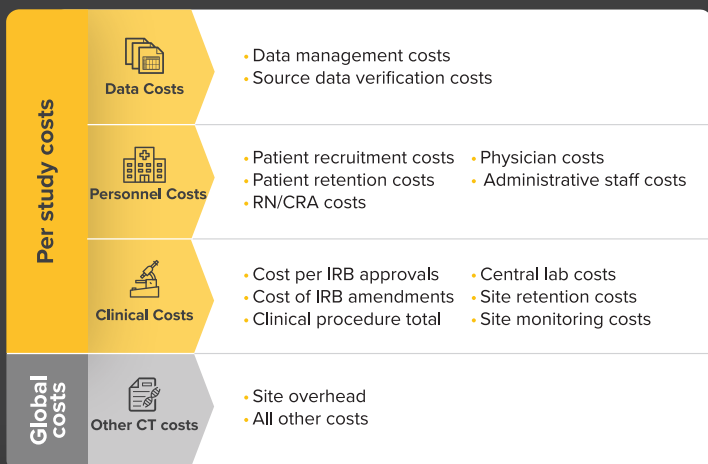
BENEFITS

- Structural views of proteins based on sequences & 2D structures
- Binding and allosteric site information
- List of competitors binding to the same sites
- Druggability scores

Modelling trial costs and likelihood of success for each disease

Based on competitors' trial size, duration, and geographic site distribution

Clinical Trial Costs



INNPLEXUS TECH OVERVIEW

• Compiled, normalized & analyzed all published clinical trials data including, but not limited to the following:

- Phase
- Comparator
- Principal Investigators
- Indication
- Sample Size

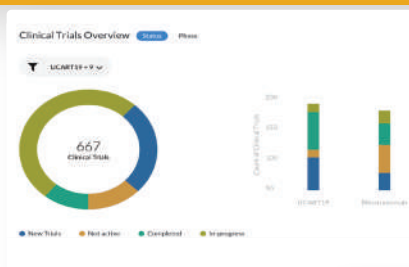


BENEFITS

- While modeling clinical trial costs is traditionally a time consuming task, Innoplexus' technology rapidly scaled modeling efforts after aligning on key assumptions with the client and allowing custom scoring
- Modeling costs for all potential diseases provided a more comprehensive opportunity assessment, rather than modeling costs for a select few diseases

Assessing the market opportunity for each indication

Based on level of current and future competition, and market size or value



Clinical Competitive Intelligence

- Clinical Trial Overview
- Market Fragmentation
- Upcoming Drugs
- Indication Analysis across competitors



INNPLEXUS TECH OVERVIEW

- Leveraging our computer vision software, Innoplexus extracted information from PDFs (e.g. company reports 10-Q, etc.), such as drug sales
- Additionally, we integrated third-party data (e.g. prescription sales data) to further bolster decision making



BENEFITS

- Prioritizing based on commercial opportunity ensured assets brought into clinical trials were likely to provide the client with positive returns
- By integrating third-party data, Innoplexus provided the client with a single source of information presented in a dashboard

Commercial Opportunity Assessment

- Market Share Landscape
- Patent Competitor Trends

