



Hookipa Case Study

Finding relevance in immuno-oncology trial datasets (big data)

INTRODUCTION

The inherent complexity of cancer and the particular requirements for unravelling **new biomarkers** and **predicting treatment response** makes it crucial to develop predictive models that enable **time-sensitive** analysis of multiple data sources, including genomic datasets, clinical results, and patient monitoring. myNEO Therapeutics performs **in-depth tumor profiling** and integrates multiple datatypes from over 700 tumor reference samples. With our data platform we increase **the interpretation of clinical datasets of patient cohorts** undergoing immunotherapy, to **evaluate response with alternative immunotherapy-specific parameters** beyond RECIST and identify **biomarkers for classification**.

Key strengths of AI-driven IO cohort analysis:

- Making sense of an abundance of datasets in an unbiased way
- Improved accuracy & speed
- Data-supported patient inclusion
- Increased responder fractions
- Linking biology with clinical responses

Diversity in IO trials, patients & cells:

- Cancer is complex & diverse
- Immune systems respond differently
- Terabytes of data across assays
- Unfeasible for manual correlations
- Public ref. databases are unstructured

DATA-DRIVEN COHORT ANALYSIS WITH HOOKIPA PHARMA

- HPV: 5% of worldwide cancer burden
- Partnership with Hookipa Pharma to support their clinical investigation
- Lead oncology program HB200: administration of replicating arenaviral vector to advanced HPV16+ cancer patients who progressed on standard care – either as monotherapy (Ph1) or combined with CPI (Ph2)
- Role myNEO Tx: **big data analysis** and immuno-oncology expertise to **gain more insights into the interplay of immunogenic & molecular responses** in different treatment groups over time

Tumor characterization:

- Biological data convolution
- Build tumor's storyline
- TME analysis

Treatment success evaluation:

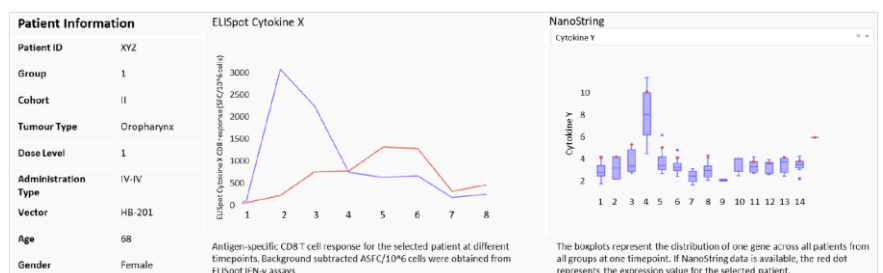
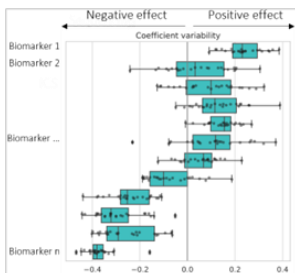
- Characterize immune response
- Evaluate clinical outcome
- Evaluation of safety & tolerability

Biomarker analysis:

- Pre- and on treatment biomarker
- Patient stratification
- Response monitoring & prediction



1. Evaluated differences in response among the different groups
2. Compared immunogenic response, expression & mutation profile and immune contexture between clinical responders and non-responders
3. Created a customized interactive data visualization platform to further facilitate the assessment of immunogenic responses and clinical outcomes on an individual patient level



CONCLUSION

- 100 patients were analyzed in a time-sensitive manner
- **Analysis performed by myNEO Therapeutics supports therapy design optimization**, including pre-treatment biomarker identification, patient stratification, response monitoring & prediction, immunogenic & molecular response characterization and clinical outcome evaluation



myNEO
Therapeutics



Innovating immunotherapies, transforming tomorrow

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