CanPathPro

is developing and validating a bioinformatics concept and the associated computational tools required for the translation of highly complex and heterogeneous omics data into predictive modelling of cancer signalling.

ALACRiS Theranostics GmbH

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HelmholtzZentrum münchen German Research Center for Environmental Health

simula

NETHERLANDS CANCER INSTITUTE ANTONI VAN LEEUWENHOEK

phenomin iCS EXCELLENCE IN MOUSE PHENOGENOMICS

Research Management Assets **FINOVATIS**

CSIC Consejo Superior de Investigaciones Científicas

BIOGNOSYS NEXT GENERATION PROTEOMICS

CanPath Pro

Generation of the CanPath prototype - a platform for predictive cancer pathway modelling

"One of the greatest challenges in cancer research is to utilize the vast and dynamic influx of 'omics' data"

Contact us:

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f in ✦

www.canpathpro.eu

The CanPathPro Platform: A tripartite tool for the generation and integration of quantitative mouse omics data, and predictive *in silico* modelling of cancer signalling pathways and networks in mouse models

>>>**Impact**

new discoveries for cancer research, personalised medicine, drug discovery and development and beyond
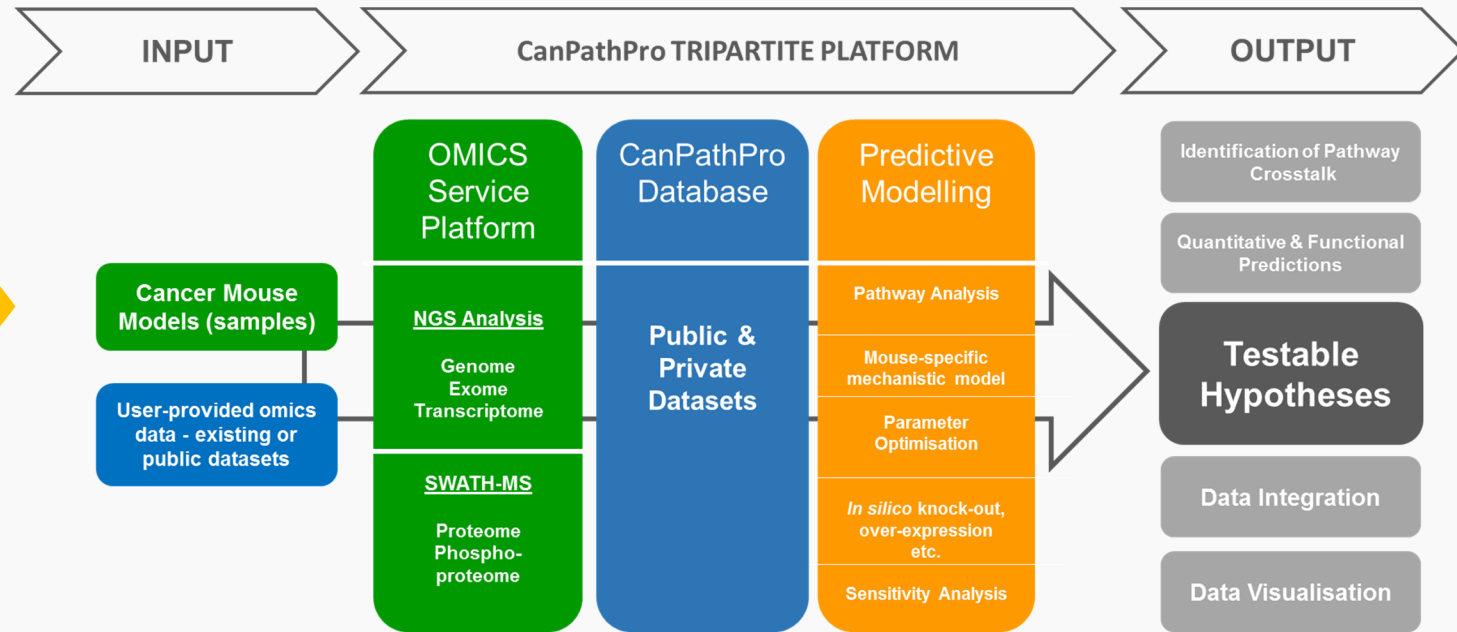
>>>**Users**

from cancer and life sciences researchers to the biotech and pharmaceutical industry

>>>**Benefits**

prioritise experiments, reduce animal experiments, enhance use of resources (time and financial), accelerate product development

>>>**Potential Applications**

identification of key cancer signalling nodes and drug targets

INPUT → CanPathPro TRIPARTITE PLATFORM → OUTPUT

Cancer Mouse Models (samples)

User-provided omics data - existing or public datasets

OMICS Service Platform
- NGS Analysis
  - Genome
  - Exome
  - Transcriptome
- SWATH-MS
  - Proteome
  - Phospho-proteome

CanPathPro Database
- Public & Private Datasets

Predictive Modelling
- Pathway Analysis
- Mouse-specific mechanistic model
- Parameter Optimisation
- *In silico* knock-out, over-expression etc.
- Sensitivity Analysis

OUTPUT
- Identification of Pathway Crosstalk
- Quantitative & Functional Predictions
- **Testable Hypotheses**
- Data Integration
- Data Visualisation

>>> Multi-tiered analysis options

> **BASIC**
Customer provided omics dataset (mouse or human) is integrated with signalling pathway information

>> **EXPERT**
Customer provided omics dataset (mouse or human) is integrated with signalling pathway information, visualised and subjected to predictive modelling, generating testable hypotheses

>>> **COMPLETE**
Customer provided mouse cancer model concept. Mouse models are omics characterised within the platform. Data are integrated with signalling pathway information, visualised and subjected to predictive modelling, generating testable hypotheses.