ScitoXpress™ Identifying Mode of Action and Bioactivity Effect Levels

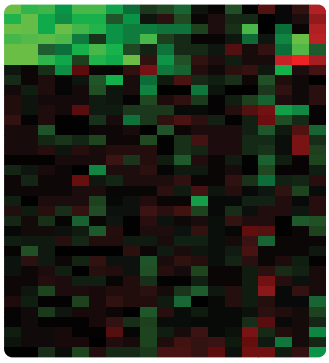
Transcriptomics analysis offers a cost-efficient and rapid means of categorizing chemical risk by measuring changes in genes. Many organizations can provide basic services to qualitatively identify changes in the expressions of various genes. ScitoVation's offering goes many steps further by providing exceptional expertise to identify:

1. Point of Departure – the lowest dosage at which bioactivity occurs – from dose-response modeling with Benchmark Doses (BMD)
2. Mode-of-Action (MoA) based on the subsets of genes using an exclusive library of a chemical response.

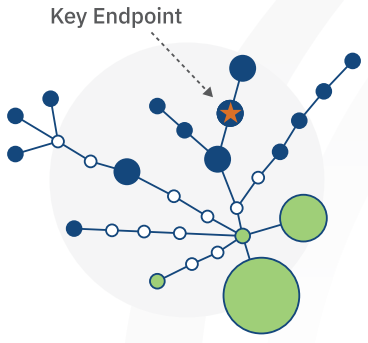
We can enrich your experimental results to better understand the observed responses and increase the value of your results for different applications such as screening for potency.

Our ScitoXpress™ package is a screening tool to quantify the dose-responses and possible modes of action for a small subset of compounds.

- We can not only identify key gene expression changes from your experiments with our standardized bioinformatic pipelines but also map these genes for biological functions and processes.
- Thanks to our wealthy library of chemical responses from historical archives of experiments, we can also map for potential pathways of biological effects or even harm.
- Additionally, we can extrapolate any endpoints from your transcriptomic experiments into an exposure context using biological or Physiologically Based Pharmacokinetic (PBPK) modeling.
- ScitoVation's extensive expertise in Biology, Toxicology, and Pharmacology from our scientists and senior fellows can help interpret and apply your results for public and regulatory use.



Gene Expression Profile



Gene Ontology Enrichment and Mapping

Dose Extrapolation BMD and PBPK Modeling

Why Use Transcriptomics and ScitoXpress™?

With the use of transcriptomics, POD and MoA can be inferred based on changes in gene expression in response to chemical exposure. The rationale behind this approach is that changes in gene expression must precede the observed changes in phenotype (e.g., tumor formation, liver hypertrophy).

Thus, changes in gene expression are likely to occur earlier compared to endpoints such as disease or tumors that would be observed in vivo studies. In addition, in vitro toxicogenomic studies can reflect many of the changes known to occur in vivo.

For additional information, please contact:
customerservice@ScitoVation.com

ScitoVation
PIONEERS IN CHEMICAL SAFETY ASSESSMENT

6 DAVIS DRIVE, SUITE 146
DURHAM, NC 27709

PHONE: +1 (919) 354-5225
WWW.SCITOVATION.COM