

Nephrotox Plex:

A multigene Reverse Transcriptase
XP-PCR Assay

DESTINATION
Expedited development of
better therapeutics with
biomarkers

Monitor Toxicity

Fail Poor Compounds Early

Avoid Unnecessary Costs

Platinum based agents are frequently used as Chemotherapy treatments for ovarian and breast cancer. Unfortunately kidney toxicity is one of the common side effects of treatment with these drugs. Althea has developed a multiplex gene expression assay for preclinical screening of platinum companion compounds as well as new platinum drugs for potential nephrotoxicity.



SIGNATURE DISCOVERY

Gene selection based on expression markers of renal toxicity predicted by collaboration efforts of members of ILSI and HESI (Environmental Health Perspective, (2004) vol. 112 #4 pp465-479)

BIOMARKER DEVELOPMENT

Biomarkers from the ILSI study were compared to biomarkers predicted by Thukral et. al. (Toxicologic Pathology, 33:343-355, 2005). Genes common to both were combined into a single PCR multiplex assay.

DIAGNOSTIC TOOL

Preclinical screening tool: choose the molecule with no preclinical Nephrotoxicity before it goes into Phase I.

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FEATURES:

- ✓ Based on ILSI-HESI Consortium Research
- ✓ 24 Multiplex Gene Expression Assay



Early Tox
Prediction

Prioritize
NDEs

Reduced
Manufacturing
Costs

Rapid
Results

- ✓ Measures established biomarkers of toxicity
- ✓ Fail toxic compounds early

RESULTS:



Figure 1 and 2. Monitoring gene expression changes in NRK-52E rat kidney cells after treatment with cisplatin in the presence, (●), or absence, (○), of WR1065 using the Rat Nephrotoxicity plex.



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