Compilation of chemical exposure data

1. CTD exposure studies
2. Exposome-Explorer
3. PubChem Body burden

Filtration of human tissue-specific exposure data from biological and non-biological specimens

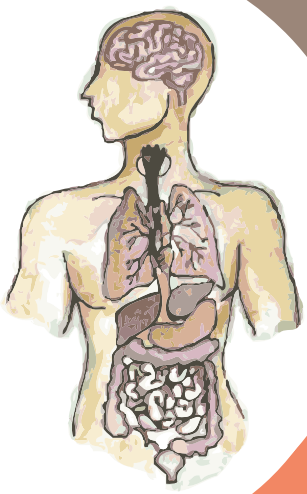
Removal of endogenous chemicals detected in human tissues

Mapping of chemicals to standard structural identifers (CAS or PubChem)

Compilation of 380 chemicals across 27 human tissues forming Human **T**issue-specific **Ex**posome **A**tla**s** (TExAs)

1

Human Tissue-specific Exposome Atlas (TExAs)



2

Link to chemical regulations and exposomes

Comparsion of 380 chemicals with 55 chemical regulations or guidelines which were classified into 8 external exposome categories

300 chemicals from TExAs are present across 55 chemical regulations or guidelines

109 out of 300 chemicals are also produced in high volume

3

Network view of tissue-specific external exposome

Retrieve tissue-specific target genes of chemical exposome using ToxCast

Mapping of ToxCast tissues to 27 human tissues compiled in TExAs

Filtration of chemical-gene interactions specific to tissues compiled in TExAs

Retrieve disease associations for tissue-specific target genes using DisGeNET

Tissue-specific tripartite networks comprising 148 chemicals, 60 target genes and 191 diseases

Built tissue-specific disease networks based on shared chemicals between any two diseases