Pathway Commons: Pathway Information. Single Point of Access.

*Version 8 - May 2016

Web
REST
SPARQL

DATABASES
22

INTERACTIONS
1.3 million

PATHWAYS
42 thousand

Analyze
ChiBE
PaxToolsR
CyPath2

Visualize
PCVIz

Download
BioPAX, SIF
Gene Set (GMT)

GET (by URI)
Pathway (BioPAX)
Interaction (SIF)
Graphics (SBGN)
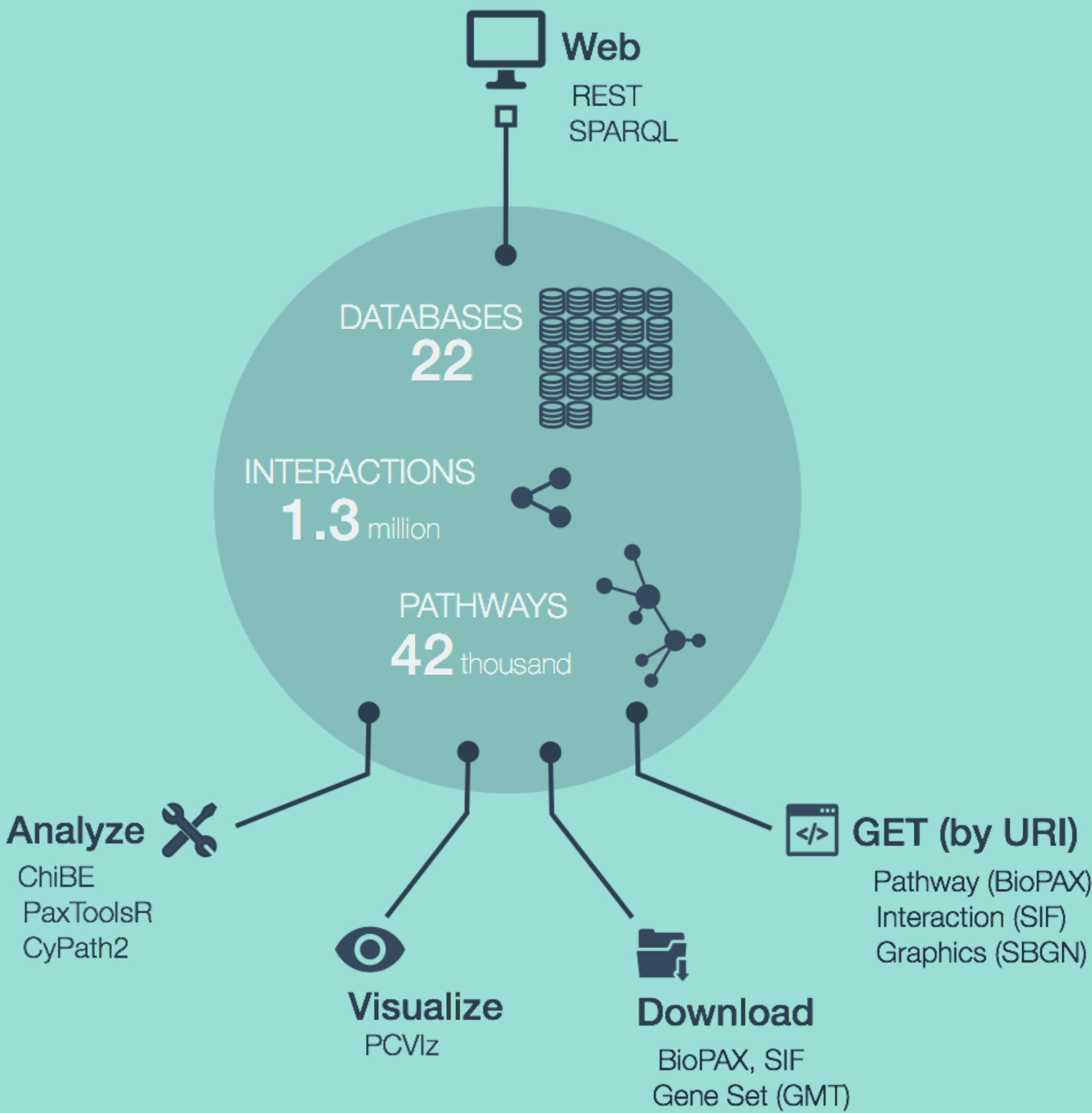
*Regular releases throughout the year

What you can get

Download Pathway Data
Biological Pathway Exchange format (BioPAX L3)
Simple Interaction Format (SIF; Inferred from BioPAX)
Gene sets in *Gene Matrix Transposed* format (.gmt; Pathway analyses)

Pathway Data via Web Service
Search - Full text search in the integrated BioPAX model
Get - Sub-networks by BioPAX object URI
Advanced queries (*Graph, Traverse*)

Tools & Learning
PaxToolsR – R package to access PC and manipulate pathway data
ChiBE – Desktop program to access PC and visualize pathway data
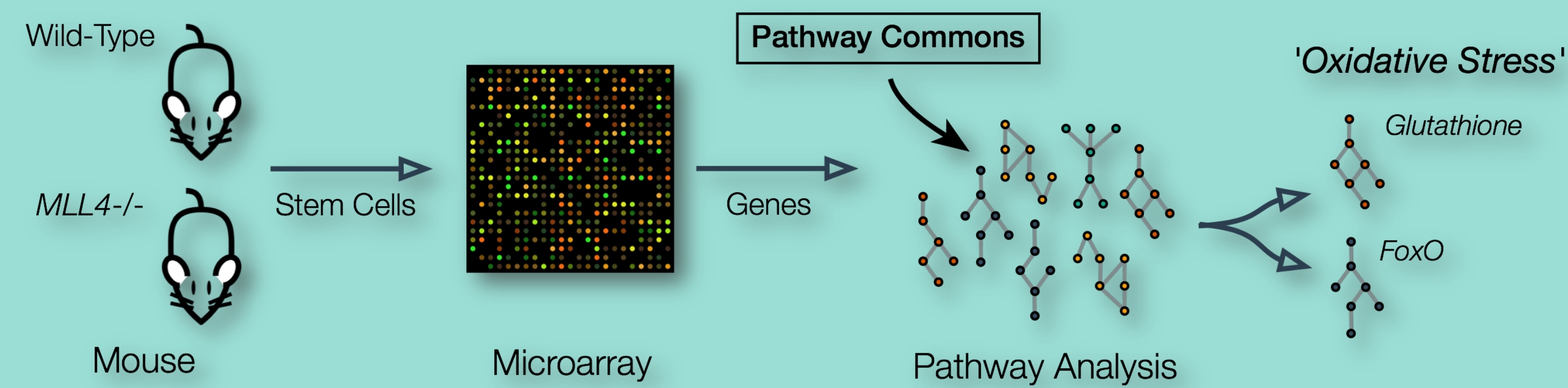CyPath2 – Cytoscape plugin enabling PC web service access

Visit us at **www.pathwaycommons.org** for more information and tools

What's Inside

NetPath
WikiPathways
KEGG
IntAct (Complex)
BIND
Panther
IntAct
TRANSFAC
BioGRID
CORUM
DIP
miRTarBase
HumanCyc
Recon X
HPRD
DrugBank
PhosphoSitePlus
INOH
NCI PID
SMPD
Reactome
CTD

Pathway / Interaction
Data Sources

Support in BioPAX L3
Metabolic Pathways
Signaling Pathways
Gene Regulatory Networks
Genetic Interactions

Pathway Commons acknowledges the database partners from which we source pathway data
www.pathwaycommons.org/pc2/datasources

Where it has been used

Pathway Commons [*Cerami EG, NAR v39 (2011)*] has been referenced in hundreds of instances by experimentalists and computational biologists alike. Two recent highlights:

Geneticists use Pathway Commons data to link gene implicated in leukemia to well-studied oxidative-stress pathways that maintain stem-cell renewal
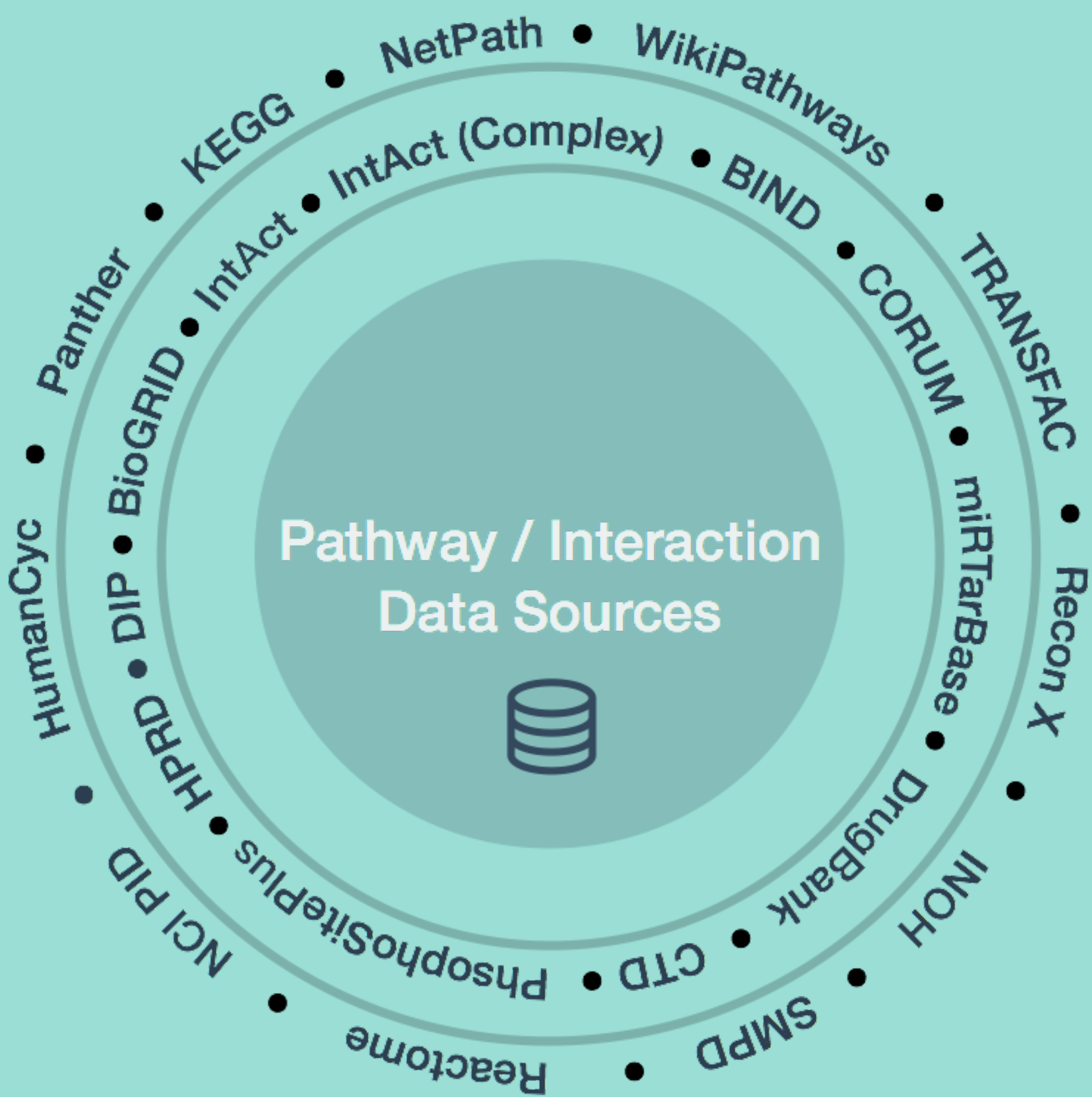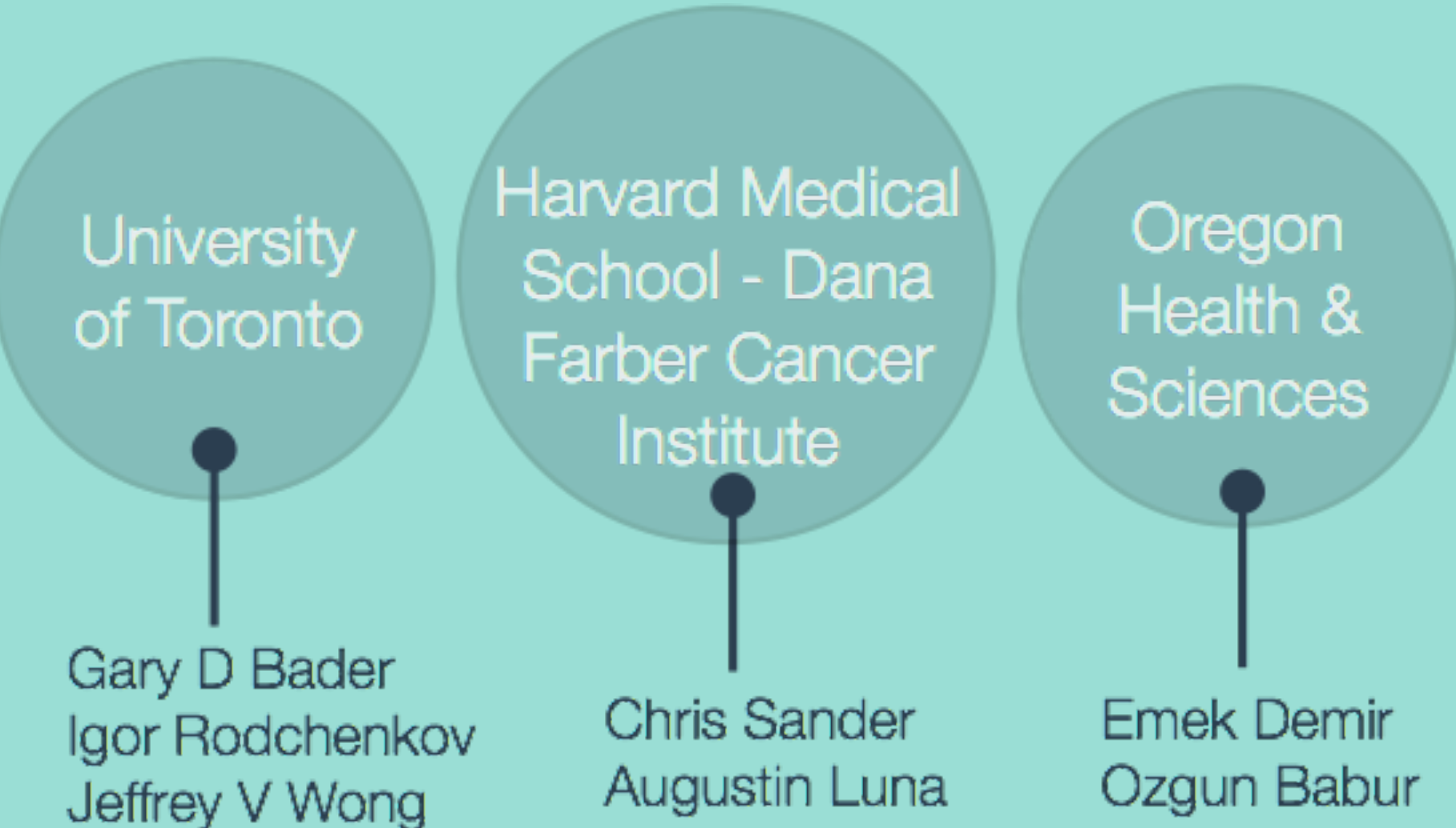DNA-damage-induced differentiation of leukemia cells as an anti-cancer barrier
Santos et al. Nature Volume 514, Issue 7520, 107-111 (2 October 2014)

Wild-Type

MLL4-/-

Mouse

Stem Cells

Microarray

Pathway Commons

Genes

Pathway Analysis

'Oxidative Stress'
Glutathione
FoxO

Winners of the DREAM 8 challenge to infer causality in a signaling network rely on pathways extracted from Pathway Commons
Inferring causal molecular networks: empirical assessment through a community based effort Hill et al. Nature Methods Volume 13, Issue 4, 310-318 (April 2016)

Who we are

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