Knowledge driven pathway construction
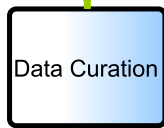
Data driven pathway construction

Pathway Concept

Database (information mining)

Literature — PubMed Google Scholar

Protein Interaction Databases — STRING BIND
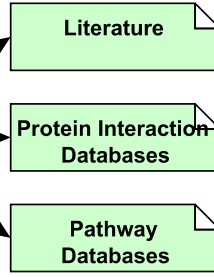
Pathway Databases — KEGG Reactome Ingenuity

Data Curation

Official HUGO and Entrez IDs

Nature of interaction

Interacting components

PubMed ID/ reference

Data Organisation

Interaction List Speadsheet

Pathway Database

Primary Pathway Construction
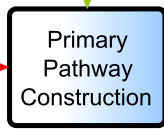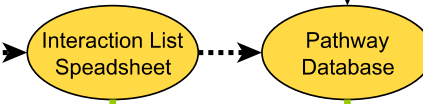
Annotation: -Interaction source/ description -Component IDs /url links

Interaction depiction

Layout optimisation

Pathway content/ notation ambiguous

Pathway Optimisation/ Validation

Optimisation of content, notation, logic and layout

Pathway 'expert' opinion

STAT2 [P]

STAT1 [P]

B

STAT1: STAT2

PATHWAY

Pathway 'Analysis'

Pathway stucture analysis: dependancies, relationships, unknowns

Mathematical modelling

Genomics/ biological data analysis
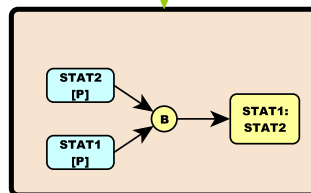
Pathway knowledge dissemination

Experimental Hypothesis Testing