

Module 2: Network reconstruction

Generation of *context-specific*, experimentally-derived, networks



Global interactomic data-sets from:

LCTST web site
or
public data-bases

(within Cytoscape, see Module 1)

+

Experimental
(big if high-throughput)
data-sets
(genomic, proteomic,
metabolomic)
=
**Context-specific
bioinformatic probe**

| | | | | |
|-------------------|--------------|----------------------------------|-----|-------|
| SEBP1 | Pan-specific | Eukaryotic translation initiator | 0.0 | 610 |
| SEBP1 | S65 | Eukaryotic translation initiator | 0.0 | 78 |
| SEBP1 | Y45 | Eukaryotic translation initiator | 0.0 | 555 |
| AB | Y209 | Twintin-1 | 0.0 | 869 |
| AP2 | Y209 | Twintin-2 | 0.0 | 579 |
| AKK1 | S637 | AP2-associated protein kinase | 0.0 | 2284 |
| ABL1 | Pan-specific | Abelson proto-oncogene-encod | 1.0 | 2940 |
| ABL1 | Y139 | Abelson proto-oncogene-encod | 0.0 | 243 |
| ABL1 | Y226 | Abelson proto-oncogene-encod | 0.0 | 311 |
| ABL1 | Y207 | Abelson proto-oncogene-encod | 0.0 | 1046 |
| ABL1 | Y264 | Abelson proto-oncogene-encod | 0.0 | 1372 |
| ABL1 | Y412 | Abelson proto-oncogene-encod | 0.0 | 1264 |
| ABL1 | Y469 | Abelson proto-oncogene-encod | 0.0 | 2925 |
| ABL1 | Pan-specific | Abelson proto-oncogene-encod | 0.0 | 1726 |
| AB2 [Ag] | Y139 | Tyrosine-protein kinase ABL2 | 0.0 | 179 |
| AB2 [Ag] | K638-T660 | Tyrosine-protein kinase ABL2 | 0.0 | 2246 |
| ACACA (ACCC1) | S60 | Acetyl coenzyme A carboxylase | 0.0 | 9216 |
| ADCK1 (TNK2) | Pan-specific | Activated CDC42 kinase 1 | 0.0 | 6592 |
| ADCK1 (TNK2) | Y264 | Activated CDC42 kinase 1 | 0.0 | 6528 |
| ADCK1 (TNK2) | Y518 | Activated CDC42 kinase 1 | 0.0 | 2225 |
| ADCK1 (TNK2) | Y699-Y890 | Activated CDC42 kinase 1 | 0.0 | 1078 |
| ACTB | Pan-specific | ACTB [beta-actin] | 0.0 | 779 |
| ACTB | Y294 | Actin, cytoplasmic 1 | 0.0 | 1556 |
| ACTB | Y53 | Actin, cytoplasmic 1 | 0.0 | 311 |
| ACTN1 | Y246 | Alpha actinin 1 | 0.0 | 1567 |
| ADD3 (Adducin a3) | S726 | Adducin gamma (ADD3) | 0.0 | 596 |
| AM1 (PKBb) | T338 | RAC-alpha serine/threonine-p | 0.0 | 1759 |
| AM1 (PKBb) | Y315 | RAC-alpha serine/threonine-p | 0.0 | 367 |
| AM1 (PKBb) | Y326 | RAC-alpha serine/threonine-p | 0.0 | 207 |
| AM1 (PKBb) | Pan-specific | RAC-alpha serine/threonine-p | 1.0 | 13934 |
| AM2 (PKBb) | Pan-specific | RAC-beta serine/threonine-pr | 0.0 | 5601 |
| AM1 (PKBb) | Pan-specific | RAC-alpha serine/threonine-p | 0.0 | 4884 |
| AM2 (PKBb) | Pan-specific | RAC-beta serine/threonine-pr | 0.0 | 1761 |
| AM2 (PKBb) | Pan-specific | RAC-beta serine/threonine-pr | 0.0 | 4532 |
| AM3 (PKBb) | Pan-specific | RAC-gamma serine/threonine | 0.0 | 9119 |
| ALK | Pan-specific | Anaplastic lymphoma kinase | 0.0 | 5973 |
| ALK | Y1092 | Anaplastic lymphoma kinase | 0.0 | 2831 |
| ALK | Y1099 | Anaplastic lymphoma kinase | 0.0 | 10699 |
| ALK | Y1077 | Anaplastic lymphoma kinase | 0.0 | 23531 |

LOAD

LOAD

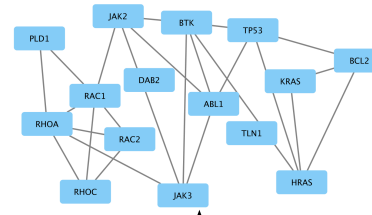
EXTRACT

EXPAND
(first neighbour)



Cytoscape
core tools

Context-specific
sub-network



Expanded context-specific sub-network
(FN = first neighbour)

