

A transversal approach to predict gene product networks from ontology-based similarity

Julie Chabalier, Jean Mosser and Anita Burgun

Supplementary information: Main results – GO profiles

Network	Gene product	Gene Ontology profile (occurrence number of shared terms)
1	ALG8 - RPL41 - RPL7A -RPL35A - RPL39 - RPS3 -RPS7 - MAN2A1 - RPL13A - EIF4A2 - EIF3S8 - EIF3S2	cellular biosynthesis(66) cellular macromolecule metabolism(66) macromolecule biosynthesis(66) protein metabolism(66) regulation of biosynthesis(3)
2	GLS - GATM - ASS -CPS1 – GLUL - ODC1 - SEPHS2 - SMS	amine metabolism(10) amino acid and derivative metabolism(10) organic acid metabolism(8) cellular biosynthesis(6) nitrogen compound biosynthesis(1) sulfur metabolism(1) arginine metabolism(1)
3	APOM - APOC3 - APOA1 -APOB UGT2B17 - AKR1C3 - ACAS2 HMGS1 - MBTPS1 - UBE2D1 MEP1A - RNF128	lipid metabolism(18) cellular lipid metabolism(17) cellular macromolecule metabolism(8) protein metabolism(8) biopolymer catabolism(6) cellular catabolism(6) macromolecule catabolism(6) alcohol metabolism(5)
4	HMGA2 -H3F3B - H2AFY - NAP1L4 NAP1L1 - MCM3 - TRIM28 - PIAS4 G22P1 - HMGB1	nucleobase, nucleoside, nucleotide and nucleic acid metabolism(14) DNA metabolism(12) organelle organization and biogenesis(10) cellular macromolecule metabolism(7) protein metabolism(7) regulation of nucleobase, nucleoside, nucleotide and nucleic acid metabolism(5) response to DNA damage stimulus(1)
5	CS - GAPD - LDHB -ACO1	generation of precursor metabolites and energy(4) carbohydrate metabolism(4) cellular catabolism(4) cellular macromolecule metabolism(4) cofactor metabolism(1) alcohol metabolism (1) macromolecule catabolism(1)
6	ATP7B - SLC26A3 - SLC11A2 - TF	ion transport(6)
7	VAPB - HSPA9B - TRIP12 - NKTR TRAP1	cellular macromolecule metabolism(10) protein metabolism (10)
8	HSPD1 - KPNB1 - CALR	protein transport(3) establishment of protein localization(3) intracellular transport(3) cellular macromolecule metabolism(1) protein metabolism(1)

9	RNASE4 -IVNS1ABP - SF3B2 RNA	metabolism (3) nucleobase, nucleoside, nucleotide and nucleic acid metabolism (3)
10	KRT8 -TUBA1	organelle organization and biogenesis
11	NME2 - NME1	nucleobase, nucleoside, nucleotide and nucleic acid metabolism cellular biosynthesis negative regulation of cellular physiological process regulation of cell proliferation regulation of cell cycle
12	ADH4 - GPD1	alcohol metabolism
13	FN1 - SERPINA1	defense response response to pest, pathogen or parasite response to external biotic stimulus
14	ZW10 - MMS19L	M phase mitotic cell cycle sister chromatid segregation
15	SLC2A5 - SLC2A3	carbohydrate transport
16	CDC2 - STK6	phosphorus metabolism cellular macromolecule metabolism protein metabolism M phase mitotic cell cycle
17	AKR1C1 - NDRG1	response to abiotic stimulus
18	VTN - AFP	defense response