

**Table S1. Early DE interactome network.** Functional description of interactome nodes linked in first and second levels - centered in hubs, high-hubs and VIPs.

Protein	PubMed	Biological Process	Shape (border color)
AKTIP	apoptotic process	apoptosis	parallelogram
MYC	cell cycle progression; apoptosis; cellular transformation		
PPP2R2B	apoptotic process		
TRADD	induction of apoptosis by extracellular signals; signal transduction		
MAP1LC3B	autophagy/microtubule assembly	autophagy	octagon
SQSTM1	autophagy; apoptotic process; endosomal transport		
TBC1D17	Rab GTPase activator activity		
ALB	Albumin (ALB) functions as a carrier protein for steroids, fatty acids, and thyroid cell processes hormones; plays a role in stabilizing extracellular fluid volume		circle (pink)
FAM70B	Official symbol: TMEM255B. Membrane component		
SPAG5	cytoplasmic trafficking; spindle organization; cilium formation		
TK1	nucleotide metabolism		
DLST	glucose metabolism	cell processes/ bioenergetic systems	circle (pink)
ESR1	estrogen receptor alpha/regulator of energy balance		
RANBP2	regulation of glucose transport		
LAMA4	regulation of cell adhesion; regulation of cell migration	cell processes/cell-cell interaction/adhesion	circle (pink)
MTA3	zinc ion binding; regulation of cell proliferation	cell processes/proliferation	circle (pink)
ARL15	small GTPase mediated signal transduction	cell processes/signaling	circle (pink)
GPR183	G protein-coupled receptor; signaling		
KRT14	Cell proliferation and differentiation	cytoskeleton	circle (green)
TRAF3IP1	cytoskeletal system protein		
FHOD1	actin binding; positive regulation of stress fiber assembly	cytoskeleton/actin	circle (green)
MAP1LC3A	microtubule-associated protein	cytoskeleton/tubulin	circle (green)
FGFR3	JAK-STAT cascade	inflammation/ immune function	diamond
IGHA1	immune response		
IGHG1	immune response		
MAPK10	JUN kinase activity; activation of MAPK activity		
NFKB2	inflammation and immune function		
MTA1	ubiquitination and acetylation; inflammatory response	inflammation/ubiquitination	diamond
TRPM6	calcium channel activity	ion channel/voltage-gated channel	triangle (red)
TRPM7	calcium channel activity		
WNK1	ATP binding; sodium and chloride ion transport regulator		
BBS1	nonmotile primary cilium assembly	neuronal development	hexagon
BBS4	alpha-tubulin binding; brain morphogenesis; cerebral cortex development		
BBS7	Recruits Rab8(GTP) to the primary cilium promoting ciliogenesis		
PAFAH1B3	brain development; nervous system development; lipid metabolic process		
TXNRD1	Brain development; expressed in glia and neuron precursor cells		
APC	multisubunit E3 ubiquitin ligase controlling cell cycle transition in proliferating cells	neuronal development/plasticity	hexagon
CAV1	cholesterol transport; neuronal cholesterol homeostasis		
CHN1	GTPase activator activity; regulation of axonogenesis		
ESR2	estrogen receptor beta		
TUBB2A	neuron differentiation; learning and memory processes		
DISC1	microtubule cytoskeleton organization; neuron migration	neuronal development/plasticity/cell migration	hexagon
EGFR	cell proliferation; axon guidance; cerebral cortex cell migration; interaction of EGFR and EMP-1 plays a role in the mechanism of drug resistance in epilepsy		
HIF1A	cell differentiation; neural crest cell migration		
RAC1	axon guidance; cell adhesion; cell motility		
GRB2	axon elongation; adaptor molecule in several growth factor signaling cascades; neuronal development/plasticity/dendritic growth association with DISC1		hexagon
HDAC2	dendrite development; negative regulation of neuron projection development		
KNDC1	dendrite growth and morphogenesis		
MYH14	neuritogenesis		
BBS2	brain development; cerebral cortex development; hippocampus development	neuronal development/plasticity/hippocampus	hexagon
EZH2	methyltransferase/neurogenesis and memory		
PTPRS	cell adhesion; developmental of cerebellum, cerebral cortex, corpus callosum, hippocampus and spinal		
HDAC1	histone deacetylase activity; negative regulation of apoptosis	neuroprotection	rectangle (red)
IGFBP3	regulation of apoptotic process		
KLF6	zinc ion binding; positive regulation of transcription		
PARK7	protects neurons against oxidative stress and cell death; regulation of neuron apoptotic process; membrane depolarization		
PSME1	proteasome activator		
RTN2	neuroprotection; Intracellular vesicular transport; glucose import		
SERPINB9	anti-apoptosis		
SET	negative regulation of neuron apoptosis		
ARRB1	G-protein coupled receptor internalization; positive regulation of Rho protein signal synaptic transmission transduction		vee
CALM1	calcium-binding; signal transduction		
CHGB	large dense core vesicle component		
CPE	peptide hormones/neurotransmitters biosynthesis		
DLG4	protein localization to synapse; axon guidance; nervous system development		
GTF3C1	synaptic activation; control of dendritic branching		
MDM2	ubiquitin-protein ligase activity; zinc ion binding; synaptic transmission		
RABAC1	proline-rich region binding; synaptic vesicle		
RIC8A	G-protein alpha-subunit binding		
SYN2	regulation of epileptic and synaptic activity/plasticity on hippocampus		
GABARAP	GABA receptor binding; synaptic transmission	synaptic transmission/GABA	vee
SAT1	glutamine transporter		
GABARAPL1	GABA receptor binding; autophagy	synaptic transmission/GABA/autophagy	vee
GABARAPL2	GABA receptor binding; autophagy; intra-Golgi vesicle-mediated transport; protein transport		
ASCC2	regulation of transcription	transcriptional regulation	circle (yellow)
DDX18	member of the DEAD box protein family; alteration of RNA secondary structure; ATPase activity		

EIF2C3	RNA binding; negative regulation of translation involved in gene silencing by miRNA		
EXOSC8	rRNA processing		
GFI1B	zinc ion binding; negative regulation of histone H3-K4 methylation		
NHP2L1	snoRNA binding; RNA splicing		
PRPF38A	RNA splicing		
RBM23	mRNA processing		
RNPC4	Official Symbol: RBM23. RNA binding protein; mRNA processing		
RPA2	transcription-coupled nucleotide-excision repair		
RPLP1	RNA metabolic process; translation		
SUPT5H	negative regulation of transcription elongation		
TH1L	negative regulation of transcription		
KDM1A	histone demethylase activity (H3-K4 specific); chromatin modification	transcriptional regulation/neurite morphogenesis	circle (yellow)
CHUK	inhibitor of NF-kappa-B complex	ubiquitination	parallelogram (pink)
ARRB2	G-protein coupled receptor binding; ubiquitin protein ligase binding		
PPP1R16A	protein phosphatase 1		
PSMD11	protein polyubiquitination		
UBE2H	ubiquitin-protein ligase activity		
RNF5	RING-finger/control of cell motility/ubiquitination		