

Supplemental Table S1: VDAC1-interacting proteins

Protein	Function	Cellular localization	Interaction assay	Reference
Apoptosis				
AIF1 -Apoptosis-inducing factor 1	Apoptosis	Mitochondria	Affinity Capture-MS	[1]
Bak -Bcl-2 homologous antagonist/killer	Apoptosis	Mitochondria	Affinity Capture-Western	[2, 3, 4]
Bax -Bcl-2-associated X protein	Apoptosis	Mitochondria	Reconstituted Complex	[5, 6, 7]
Bcl2 - B-cell lymphoma 2	Apoptosis inhibitor	Mitochondria	Affinity Capture-Western	[8, 9, 10, 11]
Bcl-xL - B-cell lymphoma-extra large	Apoptosis inhibitor	Mitochondria	Western, Reconstituted Complex	[4, 5, 6, 12, 13, 14,15]
Bim - Bcl-2-like protein 11	Apoptosis	Mitochondria	Affinity Capture-Western	[16, 17]
BNIP3 -BCL2/adenovirus E1B 19 kDa protein-interacting protein 3	Apoptosis	Mitochondria	Biochemical Activity	[18]
Bop - C22orf29	Apoptosis	Mitochondria	Affinity Capture-Western	[19]
IκBα - NF-kappa-B inhibitor alpha	Apoptosis inhibitor	Cytosol, Mitochondria	Affinity Capture-Western	[20]
MCL1 - Induced myeloid leukemia differentiation protein	Apoptosis	Mitochondria	Reconstituted Complex	[6]
tBid -BH3-interacting domain death agonist	Apoptosis	Mitochondria	Reconstituted Complex	[21]
Apoptosis & metabolism				
Bag3 - Bcl2-associated athanogene 3	Metabolism/Apoptosis	Mitochondria	Affinity Capture-MS	[22]
HK-1 -Hexokinase-1	Metabolism/Apoptosis inhibitor	Cytosol	Affinity Capture-Western	[8, 9, 23, 24, 25]
HK-2 -Hexokinase-2	Metabolism/Apoptosis inhibitor	Cytosol	Affinity Capture-Western	[8, 9, 23]
Metabolism & energy				
ALDOA -Fructose-biphosphate aldolase A	Metabolism/scaffolding protein	Cytosol	Reconstituted Complex	[26]
ANT -ATP/ADP translocase	Channel	Mitochondria	Affinity Capture-Western	[27, 28]
CPT1a -Carnitine O-palmitoyltransferase 1	Metabolism	Mitochondria	Affinity Capture-Western	[29]
Cytochrome c	Metabolism/Apoptosis	Mitochondria	Reconstituted Complex	[30]
GAPDH -Glyceraldehyde-3-phosphate dehydrogenase	Metabolism	Cytosol	Reconstituted Complex	[31]
GK - Glycerol kinase	Metabolism/Glycerol		Affinity Capture-Western	[32]
HAL - Histidine ammonia-lyase	Metabolism/L-histidine degradation	Cytosol	Affinity Capture-MS	[33]
CKMT1A -Creatine kinase U-type	Metabolism	Mitochondria	Reconstituted Complex, SRP	[34, 35]
STAR -Steroidogenic acute regulatory proteins	Metabolism/cholesterol transport	Mitochondria	Affinity Capture-Western	[36]
TSPO -Translocator protein	Metabolism/cholesterol transport	Mitochondria	Affinity Capture-Western	[37, 38]
Transporters				
CYPD -Cyclophilin D	IMM permeability	Mitochondria	Affinity Capture-Western	[39]
GLT-1 (Slc1a2)-Excitatory amino acid transporter 2	Glutamate transporter	Plasma membrane	Affinity Capture-Western	[40]
MMGT1 -Membrane magnesium transporter 1	Mg ²⁺ transport	ER-Golgi	Affinity Capture-MS	[1]

NXF1 - Nuclear RNA export factor 1	Export of mRNA	Nucleus, cytosol	Affinity Capture-RNA	[41]
PLIN3 -Perilipin-3	Transport of mannose 6 phosphate receptor to Golgi	Cytoplasm, Endosome membrane	Affinity Capture-RNA	[33]
Mitochondria				
ICT1 - Peptidyl-tRNA hydrolase	Peptidyl-tRNA hydrolase component	Mitochondria	Affinity Capture-MS	[42]
MAVS -Mitochondrial antiviral-signaling protein	Intracellular immune defense	Mitochondria, peroxisome	Affinity Capture-Western	[43]
MTX2 - Metaxin-2	Transport	Mitochondria	Affinity Capture-MS	[1]
RMDN3 - Regulator of microtubule dynamics protein 3	Calcium homeostasis	Mitochondria outer membrane, Cytosol	Affinity Capture-MS	[1]
SPG7 -Paraplegin	Protease	Mitochondria	Affinity Capture-Western	[44]
TOMM20 -Import receptor subunit TOM20 homolog	Mitochondrial receptor	Mitochondria	Reconstituted Complex	[45]
Redox potential				
eNOS -Nitric oxide synthase, endothelial	NO production	Cytosol, Golgi, plasma membrane	Affinity Capture-Western	[46]
SOD1 -Superoxide dismutase	Antioxidant	Cytosol, nucleus mitochondria	Affinity Capture-Western	[47]
TXNL1 -Thioredoxin-like protein 1	Redox reaction	Cytosol	Two-hybrid	[48]
ER & Golgi-associated				
GABAR-APL2 - GABAR-associated protein-like 2	Transport	ER-Golgi	Affinity Capture-MS	[49]
GOLT1B - Vesicle transport protein GOT1B	Glycosaminoglycan metabolism/transport	ER-Golgi	Affinity Capture-MS	[1]
GRP78 -78 kDa glucose-regulated protein	Protein folding	ER	Two-hybrid	[48]
PSENEN - γ -secretase subunit PEN-2	Endoprotease	ER-Golgi	Affinity Capture-MS	[50]
Kinases				
CDK2 -Cyclin-dependent kinase 2	Kinase	Cytosol	Affinity Capture-MS	[51]
CSNK2B -Casein kinase II subunit β	Kinase	Cytosol, Nucleus	Two-hybrid	[52]
MAPK3 (ERK1)- Mitogen-activated kinase 3	Kinase	Cytosol	Affinity Capture-MS, FRET	[53]
MPS1 - Dual specificity protein kinase TTK	Kinase	Cytosol	Affinity Capture-Western	[54]
NEK1 - Serine/threonine-protein kinase	Kinase	Cytosol, Nucleus	Biochemical Activity	[55, 56]
PANK2 -Pantothenate kinase 2	Kinase/CoA biosynthesis	Mitochondria	Affinity Capture-MS	[49]
PRKCE - Protein kinase C ϵ type	Kinase	Cytosol	Western, Reconstituted Complex	[57]
c-RAF -Proto-oncogene serine/threonine-protein kinase	Kinase	Cytosol	Affinity Capture-Western	[58]
Cell receptors				
ADRB2 - β -2 adrenergic receptor	Receptor	Plasma Membrane	Protein fragment complementation assay	[59]
APOE -Apolipoprotein E	Co-Receptor	Plasma Membrane	Affinity Capture-MS	[35]
APP - Amyloid beta A4 protein	Receptor	Plasma Membrane	Affinity Capture-Western	[60]

CD4 -T-cell surface glycoprotein	Receptor	Plasma Membrane	Affinity Capture-MS	[61]
FGFR1OP2 - FGFR1 oncogene partner 2	Receptor/kinase	Plasma Membrane	Affinity Capture-MS	[1]
IP3R - Inositol trisphosphate receptor	Ca ²⁺ release channel	ER	Two-hybrid	[48, 62]
VCAM1 -Vascular cell adhesion protein 1		Membrane	Affinity Capture-MS	[63]
Vesicle proteins				
HTT - Huntingtin	Transport, vesicle activity	Cytosol, Nucleus	Affinity Capture-MS	[1]
RAB2A, RAB5C, RAB7A - Ras-related protein 2A, 5C, 7A	Endo-lysosomal trafficking	Cytoplasmic vesicles	Affinity Capture-MS	[1]
TMED2 - Transmembrane emp24 domain-containing protein 2	Receptor, vesicle coat formation	ER-Golgi, Cytosol	Affinity Capture-MS	[1]
VAPA -Vesicle-associated membrane protein-associated protein A	Vesical	Membrane	Affinity Capture-MS, Co-fractionation	[1, 64, 65]
Structural				
ACTG - Actin, cytoplasmic 2	Cell motility	Cytosol	SPR	[66, 67]
CAV1 -Caveolin-1	Cytoskeletal		Affinity Capture-Western	[68]
DYNLT1 -Dynein light chain Tctex-type 1	Motor protein	Cytosol	Two-hybrid, Reconstituted Complex	[48, 69]
FLNB -Filamin-B	Cytoskeletal	Cytosol	Two-hybrid	[48]
FMNL1 - Formin-like protein1	Cytoskeletal	Cytosol	Affinity Capture-MS	[70]
GSN -Gelsolin	Cytoskeletal	Cytosol	Affinity Capture-MS	[71]
HAUS3 -Augmin-like complex subunit 3	Cytoskeletal	Cytosol	Affinity Capture-MS	[72]
KIF5B - Kinesin-1 heavy chain	Microtubule-associated		Affinity Capture-MS	[49]
MAP2 -Microtubule-associated protein 2	Cytoskeletal	Cytosol	Affinity Capture-MS	[73]
MYO19 - Unconventional myosin-XIX	Cytoskeletal	Cytosol	Affinity Capture-MS	[1]
SCIN -Adseverin	Cytoskeletal	Cytosol	Two-hybrid	[74]
TUBA1B -Tubulin alpha-1B chain	Cytoskeletal	Cytosol	Affinity Capture-Western, PLB	[75, 76, 77]
Ubiquitination				
ASB14, ASB17 -Ankyrin repeat and SOCS box protein 14, 17	Ubiquitination	Cytosol, Nucleus	Affinity Capture-MS	[78]
FOXRED2 - FAD-dependent oxidoreductase domain-containing protein 2	Ubiquitination	ER	Affinity Capture-MS	[79]
PARK2 - E3 ubiquitin-protein ligase Parkin	Ubiquitination	Cytosol, Mitochondria		[80-83]
UBAC2 - Ubiquitin-associated domain-containing protein 2	Restricts protein trafficking	ER	Affinity Capture-MS	[79]
UBC -Ubiquitin C	Ubiquitination	Cytosol, Nucleus	Affinity Capture-MS	[84-87]
DNA-associated				
ATF2 - Cyclic AMP-dependent transcription factor	Transcriptional activator	Cytosol, nucleus, mitochondria	Affinity Capture-Western	[24]
HDAC5 -Histone deacetylase 5	Histone deacetylase	Nucleus	Affinity Capture-MS	[88]

MCC - Colorectal mutant cancer protein	Inhibits DNA binding of β -catenin/ TCF/ LEF TFs	Nucleus	Affinity Capture-MS	[49]
MDC1 - Mediator of DNA damage checkpoint protein 1	DNA damage check point protein	Nucleus	Affinity Capture-MS	[89]
MED20 - Mediator of RNA polymerase II transcription subunit 20	RNA polymerase II transcription mediator	Nucleus	Affinity Capture-MS	[90]
SIRT7 -NAD-dependent protein deacetylase sirtuin-7	Deacetylase	Nucleus	Affinity Capture-MS	[91]
SPRTN - SprT-like domain-containing protein Spartan	Regulator of UV-induced DNA damage	Cytosol, nucleus	Affinity Capture-MS	[92]
ZNF622 -Zinc finger protein 622	Transcription activation	Nucleus, cytosol	Two-hybrid	[48]
RNA-associated				
A1837181	Poly(A) RNA binding		Affinity Capture-MS	[72, 93]
EWSR1 - RNA-binding protein EWS	Transcriptional repressor	Cytosol, nucleus, membrane	Proximity labeled-MS	[93]
MOV10 - Putative helicase	RNA helicase	Cytosol	Affinity Capture-MS	[41]
NTRK1 - High affinity nerve growth factor receptor	Receptor tyrosine kinase	Membrane	Affinity Capture-MS	[94]
Chaperons				
CRYAB - α -crystallin B	Chaperone-like activity	Cytosol, nucleus	Affinity Capture-MS	[95]
DNAJB1 -DnaJ homolog subfamily B1	Chaperone	Cytosol, nucleus	Two-hybrid	[48]
GRP75/HSPA9 - Stress-70 protein	Chaperone	Mitochondria, nucleus	Affinity Capture-Western, Two-hybrid	[48]
SUMO4 -Small ubiquitin-related modifier 4	Protein stability	Nucleus	Affinity Capture-MS	[96]
TBCC - Tubulin-specific chaperone C	Protein folding chaperone	Cytosol	Two-hybrid	[48]
TTC1 - Tetratricopeptide repeat protein 1	Protein folding	Cytosol	Two-hybrid	[48]
Others				
Aβ -Amyloid β	Peptide	Plasma Membrane	SPR, MST,PLB	[60, 97]
DCD - Dermcidin	Anti-microbial activity	Secreted	Affinity Capture-MS	[49]
ENV -Envelope glycoprotein gp160	Virion structural	Host membrane, virion membrane	Affinity Capture-MS	[98]
KLHL40 -Kelch-like protein 40	Muscle development	Cytosol	Two-hybrid	[99]
Kringle 5 - K5 plasminogen domain	Angiogenic inhibitor	Secreted	BiFC, Affinity Capture-Western	[3, 4]
PPM1G - Protein phosphatase 1G	Serine/threonine Phosphatase	Membrane, cytosol	Two-hybrid	[48]
SNCA - α -synuclein	Dopamine release	Cytosol, nucleus membrane, secreted	Affinity Capture-Western	[100]
TMEM109 - Transmembrane protein 109	UVC protection	ER, nucleus	Affinity Capture-MS	[1]
TRAF6 - TNF receptor-associated factor 6	Activation of NF-kappa-B and JUN	Cytosol	Affinity Capture-MS	[49]
VWA9 - von Willebrand factor A domain-containing protein 9	Unknown	Cytosol, nucleus	Affinity Capture-MS	[1]
14-3-3-epsilon /YWHAE	Adaptor protein	Cytosol, melanomasol	Affinity Capture-Western	[101]
ZG16B - Zymogen granule protein 16 homolog B	Carbohydrate binding	Secreted	Affinity Capture-MS	[33]

Supplemental References

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