

Table S1. Mass spectrometry of the proteins eluted from GST-Cab45-bound beads

Gene symbol	Unique peptides	Uniprot protein IDs	Mass
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DSP isoform DPI of Desmoplakin	2	IPI00013933	331,569
HRNR Hornerin	3	IPI00398625	282,390
FLG2 Filaggrin-2	1	IPI00397801	248,073
GOLGA3 isoform 1 of Golgin subfamily A member 3	2	IPI00305267	167,252
DSG1 Desmoglein-1	2	IPI00025753	113,784
ATP1A1 isoform long of sodium/potassium-transporting ATPase subunit α -1	5	IPI00006482	112,824
PGAP1 isoform 1 of GPI inositol-deacylase	2	IPI00178415	105,315
RGPD8;RGPD5;RGPD6 RANBP2-like and GRIP domain-containing protein 7	1	IPI00100787	103,269
ATP2C1 isoform 2 of calcium-transporting ATPase type 2C member 1	1	IPI00220473	96,897
TRPC3 short transient receptor potential channel 3	2	IPI00748783	97,292
AP1G1 cDNA FLJ46199 fis, clone TEST14007965, highly similar to AP-1 complex subunit γ -1	2	IPI00643591	94,080
MOGS Mannosyl-oligosaccharide glucosidase	2	IPI00328170	91,918
ECEL1 isoform 1 of Endothelin-converting enzyme-like 1	1	IPI00006735	87,736
IFI16 isoform 1 of Gamma-interferon-inducible protein Irf-16	3	IPI00003443	88,199
PKP3 Plakophilin-3	2	IPI00026952	87,029
TTC27 Tetratricopeptide repeat protein 27	3	IPI00183938	96,571
SEC63 Translocation protein SEC63 homologue	2	IPI00218922	87,942
PKP3 Plakophilin-3	2	IPI00026952	87,029
PPP1R3F Protein phosphatase 1 regulatory subunit 3F	1	IPI00374568	80,376
ALB Putative uncharacterized protein ALB	3	IPI00022434	71,658
RPN1 Dolichyl-diphosphooligosaccharide-protein glycosyltransferase subunit 1 precursor	4	IPI00025874	72,733
CLPTM1 isoform 2 of Cleft lip and palate transmembrane protein 1	2	IPI00107357	77,909
LOC646960 hypothetical protein LOC646960	4	IPI00022434	69,084
TFRC Transferrin receptor protein 1	9	IPI00022462	71,658
ACSL3 Long chain fatty acid-CoA ligase 3	2	IPI00031397	80,368
SLC7A5 Large neutral amino acids transporter small subunit 1	4	IPI00008986	54,974
SLC1A5 Neutral amino acid transporter B(0)	3	IPI00019472	57,909
SLC25A13 Calcium-binding mitochondrial carrier protein Aralar2	1	IPI00007084	52,888
CANX cDNA FLJ55574, highly similar to Calnexin	8	IPI00020984	71,458
TGOLN2 Isoform TGN51 of Trans-Golgi network integral membrane protein 2	1	IPI00012545	51,082
POR NADPH-cytochrome P450 reductase	3	IPI00470467	76,641
SLC3A2 isoform 2 of 4F2 cell-surface antigen heavy chain	8	IPI00027493	57,909
SCARB2 lysosome membrane protein 2	1	IPI00217766	54,255
ICAM1 intercellular adhesion molecule 1	3	IPI00008494	57,909
ARCN1 Coatomer subunit delta variant 2	2	IPI00298520	61,587
TRIM32 tripartite motif-containing protein 32	1	IPI00297113	71,942
CCT5 T-complex protein 1 subunit epsilon	2	IPI00010720	59,633
ARAF Putative uncharacterized protein ARAF	2	IPI00020578	67,882
DDX5 probable ATP-dependent RNA helicase DDX5	2	IPI00017617	73,198
PLK1 Serine/threonine protein kinase PLK1	1	IPI00021248	68,212
TBRG4 cDNA FLJ56153, highly similar to <i>Homo sapiens</i> transforming growth factor β regulator	2	IPI00329625	71,812
PDLIM5 PDZ and LIM domain protein 5	2	IPI00007935	63,962
TRIM29 isoform Alpha of Tripartite motif-containing protein 29	1	IPI00073096	65,793
LOC442497;SLC3A2 Isoform 2 of 4F2 cell-surface antigen heavy chain	1	IPI00027493	57,909
UTP18 U3 small nucleolar RNA-associated protein 18 homologue	1	IPI01015840	68,212
SERPINA12 Serpin A12	1	IPI00219476	47,145
CCT8 59 kD protein	10	IPI00302925	59,440
ATP5A1 ATP synthase subunit alpha	5	IPI00440493	59,714
VIM Vimentin	7	IPI00418471	53,652
PHGDH D-3-phosphoglycerate dehydrogenase	3	IPI00011200	56,614
CCT3 chaperonin containing TCP1, subunit 3 isoform b	6	IPI00290770	60,424
CCT4 T-complex protein 1 subunit δ	5	IPI00302927	53,619
CCT7 T-complex protein 1 subunit η	3	IPI00018465	59,329
ARCN1 Coatomer subunit delta variant 2	1	IPI00298520	57,888
CCT6A T-complex protein 1 subunit ζ	2	IPI00027626	57,988
SBSN suprabasin isoform 1 precursor	2	IPI00947285	60,505
FARSA Phenylalanyl-tRNA synthetase α chain	2	IPI00031820	57,528
TOR1AIP1 putative uncharacterized protein TOR1AIP1	1	IPI00792065	66,279
SACM1L phosphatidylinositolide phosphatase SAC1	3	IPI00022275	66,924
SLC27A4 long-chain fatty acid transport protein 4	1	IPI00412147	72,018
PKLR isoform R-type of Pyruvate kinase isozymes R/L	1	IPI00792065	50,944

Table S1. Mass spectrometry of the proteins eluted from GST-Cab45-bound beads (Continued)

Gene symbol	Unique peptides	Uniprot protein IDs	Mass
PPP1R7 isoform 1 of protein phosphatase 1 regulatory subunit 7	1	IPI00027165	66,942
ATP5B ATP synthase subunit β , mitochondrial	7	IPI00303476	41,539
FAR1 fatty acyl-CoA reductase 1	7	IPI00478838	38,354
RUVBL2 RuvB-like 2	3	IPI00009104	50,196
EEF1A1 elongation factor 1- α	4	IPI00396485	47,839
PLIN3 mannose 6 phosphate receptor binding protein 1 isoform 3	5	IPI00106668	45,775
HLA-A HLA class I histocompatibility antigen, A-68 α chain	2	IPI00472882	40,378
SLC2A1 Solute carrier family 2, facilitated glucose transporter member 1	1	IPI00220194	54,049
SDF4 isoform 1 of 45 kD calcium-binding protein	11	IPI00106646	41,780
SLC3A2 isoform 2 of 4F2 cell-surface antigen heavy chain	6	IPI00027493	51,125
DHCR24 24-dehydrocholesterol reductase	3	IPI00016703	60,062
CYP1B1 cytochrome P450 1B1	2	IPI00003451	60,807
ATP5C1 isoform Heart of ATP synthase subunit γ	2	IPI00440493	59,714
PTGES2 Prostaglandin E synthase 2	1	IPI00303568	41,982
NCLN isoform 1 of Nicalin	2	IPI00470649	62,935
SPTLC1 Serine palmitoyltransferase 1	3	IPI00005745	52,710
PTPN1 Tyrosine-protein phosphatase non-receptor type 1	1	IPI00297261	49,935
DHCR24 24-dehydrocholesterol reductase	2	IPI00016703	60,062
TRIP13 isoform 1 of Thyroid receptor-interacting protein 13	3	IPI00003505	48,520
ATXN10 Ataxin-10	2	IPI01019005	50,087
PSMC4 isoform 1 of 26S protease regulatory subunit 6B	1	IPI00020042	52,710
SEC61A2 Sec61 α form 2 isoform b	1	IPI00182313	49,561
HLA-C HLA class I histocompatibility antigen, Cw-12 α chain	4	IPI00743716	40,860
HLA-A HLA class I histocompatibility antigen, A-68 α chain	2	IPI00472882	53,455
SERPINH1 Serpin H1	7	IPI00032140	46,411
DNAJB12 DnaJ homologue subfamily B member 12	6	IPI00179187	41,834
MAT2A S-adenosylmethionine synthetase isoform type-2	1	IPI00010157	43,633
SLC16A1 Monocarboxylate transporter 1	3	IPI00024650	53,923
DDOST Dolichyl-diphosphooligosaccharide-protein glycosyltransferase 48 kD subunit	1	IPI00297084	50,796
AHSG 39 kD protein	1	IPI00022431	39,325
RCN1 Reticulocalbin-1	1	IPI00015842	38,866
CD44 Isoform 12 of CD44 antigen	1	IPI00297160	39,391
SLC25A5 ADP/ATP translocase 2	4	IPI00007188	32,874
SLC25A6 ADP/ATP translocase 3	3	IPI00291467	32,845
SLC25A3 isoform A of Phosphate carrier protein	3	IPI00022202	40,069
CD276 isoform 2 of CD276 antigen	1	IPI00019275	33,770
SLC25A11 mitochondrial 2-oxoglutarate/malate carrier protein	2	IPI00219729	34,040
APOA1 Apolipoprotein A	1	IPI00853525	27,891
TTC1 Tetratricopeptide repeat protein 1	1	IPI00016912	33,505
MARCKS myristoylated alanine-rich C-kinase substrate	2	IPI00219301	31,536
COPE ϵ subunit of coatomer protein complex isoform b	3	IPI00399318	28,779
SCAMP3 isoform 1 of Secretory carrier-associated membrane protein 3	3	IPI00306382	38,262
ERGIC1 cDNA FLJ56280, highly similar to ER-Golgi intermediate compartment	1	IPI00003635	26,242
PHB Prohibitin	5	IPI00017334	29,786
PHB2 Prohibitin-2	6	IPI00027252	33,276
GNB2L1 Guanine nucleotide-binding protein subunit β -2-like 1	4	IPI00848226	35,055
EMD Emerin	3	IPI00032003	28,976
MLEC Malectin	2	IPI00029046	32,214
BSG Isoform 2 of Basigin	1	IPI00019906	29,203
VAPA Vesicle-associated membrane protein-associated protein A	1	IPI00170692	27,875
CLCF1 Cardiotrophin-like cytokine factor 1	2	IPI00294405	25,176
EDN3 endothelin 3 isoform 2 preproprotein	1	IPI00410367	25,454
FAM189A2 C9orf61 protein	1	IPI00180417	18,790
ARFIP2 Arfaptin-2	1	IPI00021257	37,832
YWHAE 14-3-3 protein epsilon	1	IPI00000816	29,155
LYZ LysC	3	IPI00019038	16,537
DCD Dermcidin	4	IPI00027547	11,277
BASP1 Isoform 1 of Brain acid soluble protein 1	2	IPI00299024	22,680
Apolipoprotein E receptor 2 (fragment)	1	IPI00383266	12,298

GST and GST Cab45 were extracted from *E. coli* and purified on GST beads as explained in Fig. 5. The respective preparations of beads were incubated with HeLa cell lysate for 4 h at 4°C, washed extensively, and incubated with SDS-PAGE sample buffer to release the bound proteins, which were then analyzed by SDS-PAGE. The gels were stained with Coomassie blue and the protein bands were excised and analyzed by mass spectrometry.