

Table S1 The expression levels of TNFSF13B in 79 ACC tumor tissues and 190 normal adrenal gland tissues

Group	Sample ID	TNFSF13B expression level
Cancer	TCGA.OR.A5J1.01A	35.55493254
	TCGA.OR.A5J2.01A	50.44403995
	TCGA.OR.A5J3.01A	2.49375608
	TCGA.OR.A5J5.01A	3.383237206
	TCGA.OR.A5J6.01A	0.948643688
	TCGA.OR.A5J7.01A	31.05294024
	TCGA.OR.A5J8.01A	17.29063942
	TCGA.OR.A5J9.01A	216.1420843
	TCGA.OR.A5JA.01A	7.832313437
	TCGA.OR.A5JB.01A	12.84022696
	TCGA.OR.A5JC.01A	11.28618831
	TCGA.OR.A5JD.01A	3.784010001
	TCGA.OR.A5JE.01A	62.55556935
	TCGA.OR.A5JF.01A	25.59486687
	TCGA.OR.A5JG.01A	3.800749518
	TCGA.OR.A5JI.01A	6.923947559
	TCGA.OR.A5JJ.01A	5.483135171
	TCGA.OR.A5JK.01A	12.13840993
	TCGA.OR.A5JL.01A	30.77440142
	TCGA.OR.A5JM.01A	357.5898053
	TCGA.OR.A5JO.01A	6.071012897
	TCGA.OR.A5JP.01A	91.30896983
	TCGA.OR.A5JQ.01A	5.209878186
	TCGA.OR.A5JR.01A	4.000580032
	TCGA.OR.A5JS.01A	45.24296755
	TCGA.OR.A5JT.01A	1.595162062
	TCGA.OR.A5JV.01A	16.87514915
	TCGA.OR.A5JW.01A	6.994206264
	TCGA.OR.A5JX.01A	1.737686764
	TCGA.OR.A5JY.01A	83.50195935
	TCGA.OR.A5JZ.01A	4.996911099
	TCGA.OR.A5K0.01A	69.41281441
	TCGA.OR.A5K1.01A	4.426339552
	TCGA.OR.A5K2.01A	61.25043368
	TCGA.OR.A5K3.01A	6.266915821
	TCGA.OR.A5K4.01A	1.194871844
	TCGA.OR.A5K5.01A	86.2411978
	TCGA.OR.A5K6.01A	40.6157137
	TCGA.OR.A5K8.01A	6.704437561
	TCGA.OR.A5K9.01A	194.1403784
	TCGA.OR.A5K0.01A	9.209284157
	TCGA.OR.A5KT.01A	12.87612189
	TCGA.OR.A5KU.01A	2.256451398
	TCGA.OR.A5KV.01A	79.35773497
	TCGA.OR.A5KW.01A	14.29878792
	TCGA.OR.A5KX.01A	46.89277423
	TCGA.OR.A5KY.01A	4.162913571
	TCGA.OR.A5KZ.01A	4.458480666
	TCGA.OR.A5L3.01A	34.69181656
	TCGA.OR.A5L4.01A	3.37794547
	TCGA.OR.A5L5.01A	7.795232773
	TCGA.OR.A5L6.01A	3.717030387
	TCGA.OR.A5L8.01A	1.12435183
	TCGA.OR.A5L9.01A	10.79008386
	TCGA.OR.A5LA.01A	6.985448427
	TCGA.OR.A5LB.01A	13.81257064
	TCGA.OR.A5LC.01A	60.78092724
	TCGA.OR.A5LD.01A	1.325304591
	TCGA.OR.A5LE.01A	165.0493037
	TCGA.OR.A5LG.01A	32.73825371
	TCGA.OR.A5LH.01A	17.08635199
TCGA.OR.A5LJ.01A	9.956327257	
TCGA.OR.A5LK.01A	10.21833889	
TCGA.OR.A5LL.01A	23.79068055	
TCGA.OR.A5LM.01A	12.11528084	
TCGA.OR.A5LN.01A	7.148712209	
TCGA.OR.A5LO.01A	18.63191653	
TCGA.OR.A5LP.01A	6.65272125	
TCGA.OR.A5LR.01A	1.603704285	
TCGA.OR.A5LS.01A	3.317090377	
TCGA.OR.A5LT.01A	1.862045174	
TCGA.OJ.A5PI.01A	12.73407082	
TCGA.P6.A5OF.01A	69.87470928	
TCGA.P6.A5OG.01A	10.41986953	
TCGA.PA.A5YG.01A	6.224948028	
TCGA.PK.A5H8.01A	8.706739667	
TCGA.PK.A5H9.01A	1.880810031	
TCGA.PK.A5HA.01A	3.090439024	
TCGA.PK.A5HB.01A	1.897874641	
Normal	GTEX-111CU-0126-SM-5GZWS	7.136207233
	GTEX-111YS-0126-SM-5987T	13.98705725
	GTEX-1122O-0326-SM-5H124	3.500176166
	GTEX-117YX-0126-SM-5EGH5	23.10245262
	GTEX-11DXX-0126-SM-5EGH7	3.816206105
	GTEX-11DXY-1626-SM-5H12L	9.555646519
	GTEX-11DXZ-0226-SM-5EGGZ	5.927179646
	GTEX-11EM3-0326-SM-5A5KJ	27.3993174
	GTEX-11EMC-0526-SM-5EGJN	7.381548869
	GTEX-11EQ9-0126-SM-5986I	8.917507152
	GTEX-11GSP-0326-SM-5A5KW	6.753750561
	GTEX-11178-1826-SM-5A5M4	3.273735039
	GTEX-11NSD-0226-SM-5A5LR	11.28739947
	GTEX-11P7K-0126-SM-5986E	10.44931171
	GTEX-11TT1-0126-SM-5LUAA	23.2582923
	GTEX-11XUK-0126-SM-5CVLK	3.993130943
	GTEX-1211K-0126-SM-59HJE	7.831715074
	GTEX-12696-0626-SM-5EGGD	2.898698487
	GTEX-12BJ1-0526-SM-5FQUO	12.69775796
	GTEX-12WSD-2126-SM-5LZWK	5.152994947
	GTEX-12WSG-0726-SM-5EGIG	7.561022389
	GTEX-12WSJ-0126-SM-5GCOM	10.60860315
	GTEX-12WSK-0326-SM-5GCOJ	12.87340311
	GTEX-12WSL-0326-SM-5CVMK	14.80390007
	GTEX-12WSN-0926-SM-5GCN1	14.50774904
	GTEX-12ZZZ-0926-SM-5N9EQ	7.793649798
	GTEX-13111-0326-SM-5DUXF	5.967442508
	GTEX-131XF-0126-SM-5DUVF	7.832188729
	GTEX-131XG-1326-SM-5DUX4	5.454815694
	GTEX-131YS-2026-SM-5P9J8	7.316166283
	GTEX-132AR-1726-SM-5EGHQ	5.098840138
	GTEX-132NY-2226-SM-5J2LZ	28.46069145
	GTEX-132QS-0126-SM-5IFH9	3.587272946
	GTEX-1339X-0826-SM-5J2O6	18.78967874
	GTEX-1399R-0326-SM-5KM1X	31.7369854
	GTEX-1399S-0426-SM-5IFG5	4.854656726
	GTEX-1399U-0226-SM-5P9J2	2.906686505
	GTEX-139YR-0126-SM-5IJEY	22.04946602
	GTEX-13CF3-0126-SM-5IFFM	6.577769765
	GTEX-13D11-0426-SM-5LZYA	4.852179169
	GTEX-13FH7-0226-SM-5IFGG	4.062912862
	GTEX-13FTW-0126-SM-5IUED	4.856508235
	GTEX-13N11-0826-SM-5IJFP	5.636740873
	GTEX-13O21-0126-SM-5IJE8	8.76519904
	GTEX-13O3O-1626-SM-5KM1O	10.01699203
	GTEX-13O61-0126-SM-5KM4P	12.64613094
	GTEX-13OVI-1226-SM-5J2ME	3.792624276
	GTEX-13OW6-1726-SM-5IJGI	5.91900424
	GTEX-13OW7-2726-SM-5L3HN	7.236350891
	GTEX-13PL7-1026-SM-5MP5C	5.227765188
	GTEX-13PVR-0226-SM-5RQJI	7.277065505
	GTEX-13QBU-0526-SM-5IJFE	4.505311163
	GTEX-13W3W-1326-SM-5LUJ4T	8.765619694
	GTEX-144GL-1826-SM-79OMB	13.93482294
	GTEX-145LT-0126-SM-5S2QJ	7.658993422
	GTEX-145MN-0226-SM-5QGPY	6.244471494
	GTEX-146FR-1526-SM-5SIB8	7.991333891
	GTEX-14753-1726-SM-5N09X	5.103283743
	GTEX-147F4-2526-SM-5NQBB	4.207814948
	GTEX-14A51-2126-SM-5NQA8	7.098095592
	GTEX-14BMU-0126-SM-5S2Q9	17.64036115
	GTEX-14C38-1726-SM-5RQJ3	6.975791244
	GTEX-14C39-0226-SM-664OG	3.243797866
	GTEX-14DAQ-1826-SM-5S2VW	5.142848018
	GTEX-14DAR-1726-SM-664MZ	6.437190211
	GTEX-14E1K-0626-SM-5S2PG	4.437680727
	GTEX-14E6E-0126-SM-7KXKH	5.751296316
	GTEX-14H4A-0226-SM-5S16Q	6.060912821
	GTEX-14JG6-0126-SM-6872F	5.682021197
	GTEX-14PJ4-0426-SM-6871F	9.491477496
	GTEX-14PJ6-0126-SM-686Z5	12.68716537
	GTEX-14PK6-0126-SM-664O1	16.63675599
	GTEX-14PKV-0726-SM-686Z8	5.370617005
	GTEX-14PN3-1426-SM-686Z8	18.61439033
	GTEX-14XAO-0326-SM-6ETZ9	8.953626814
	GTEX-15CHR-0626-SM-731FS	11.55137371
	GTEX-15DYW-2126-SM-6M47B	6.358482831
	GTEX-15ER7-1126-SM-6M47F	20.19352384
	GTEX-15EU6-0326-SM-6M48F	6.95501828
	GTEX-15SHU-1926-SM-7KUMO	6.435737087
	GTEX-16AAH-0226-SM-793A8	17.20732434
	GTEX-16MT8-1626-SM-7EWDV	6.795196008
	GTEX-16NGA-0126-SM-72D6U	7.599920129
	GTEX-17HGU-0126-SM-7DHVU	7.195795154
	GTEX-17HHE-0226-SM-79399	13.38114607
	GTEX-17HHY-2226-SM-7KFS4	19.51564417
	GTEX-17K51-0326-SM-7KFS5	7.37552333
	GTEX-18A6Q-1826-SM-72DS6	7.149256305
	GTEX-18A7A-1826-SM-7KFTU	7.098591129
	GTEX-18D9B-1926-SM-7KFSV	16.17766823
	GTEX-1A3MW-0226-SM-731FS	6.997006313
	GTEX-1A3MW-2126-SM-731DO	11.71206174
	GTEX-1AMFI-0626-SM-731DR	6.634789882
	GTEX-1AX8Z-2426-SM-72D7D	13.52344054
	GTEX-1AX9J-0626-SM-72D7L	16.49124332
	GTEX-1B8KE-0926-SM-71891	16.28810178
	GTEX-1B8KZ-0126-SM-7DHM5	8.865203916
	GTEX-1B8L1-1326-SM-7MKG6	5.809574771
	GTEX-1BAJH-2626-SM-7EPG6	7.362078725
	GTEX-1C475-0126-SM-731DC	7.71513248
	GTEX-1CAMR-0126-SM-79391	7.016725351
	GTEX-1CAMS-0226-SM-79397	5.915410997
	GTEX-1EKGK-2126-SM-7MKFT	9.666444304
	GTEX-1F5PL-2326-SM-7MKFC	14.50246939
	GTEX-1NFK9-1726-SM-3JTW8P	4.119701256
	GTEX-O5Y7-1326-SM-3MJGR	49.89597857
	GTEX-O5YV-1126-SM-3LK73	9.695014773
	GTEX-OHPK-1326-SM-3MJGN	5.026055924
	GTEX-OHPL-1326-SM-3MJGH	12.85204698
	GTEX-OIZH-1326-SM-3NB11G	17.14643177
	GTEX-OQBK-3125-SM-3LK5R	10.76040306
	GTEX-OXRK-0126-SM-3NB1E	14.7827588
	GTEX-P4QS-1326-SM-3NMD3	7.146780863
	GTEX-P4QT-1326-SM-3NMD3	18.12304993
	GTEX-PLZ5-0326-SM-3P614	9.915620548
	GTEX-PLZ6-0226-SM-3P611	4.977860202
	GTEX-PW2O-0226-SM-48TC7	21.82090036
	GTEX-PWCY-0226-SM-48TD8	4.949079896
	GTEX-PXY3-1326-SM-48TU8	11.24100605
	GTEX-Q2AH-0126-SM-48U2B	9.285168898
	GTEX-Q2AI-0226-SM-48U1D	7.950354582
	GTEX-QCQG-0126-SM-48U1E	26.83504616
	GTEX-QCQG-0126-SM-48U27	10.87981443
	GTEX-QDVJ-1126-SM-48U1U	10.03900485
	GTEX-QDVN-0426-SM-48TZ6	12.7395428
	GTEX-QEG5-1826-SM-4R1JP	15.25136394
	GTEX-QLQ7-0126-SM-4R1JW	7.226845823
	GTEX-QLQW-0226-SM-447BJ	4.349725475
	GTEX-QMRM-0126-SM-4R1K9	17.24375202
	GTEX-R53T-0226-SM-48FEH	6.497728691
	GTEX-R55C-0226-SM-48FEO	6.812734347
	GTEX-R55G-0126-SM-48FDS	7.707805758
	GTEX-REY6-1726-SM-48FDL	9.77919488
	GTEX-RM2N-0126-SM-48FDD	9.457509243
	GTEX-RUSQ-0226-SM-47JWT	3.5046623
	GTEX-S32W-1326-SM-4AD61	8.120357829
GTEX-S33H-1326-SM-4AD6A	10.03798417	
GTEX-S341-0126-SM-4AD64	7.450670499	
GTEX-S3XE-0126-SM-4AD4R	7.154484685	
GTEX-S4Q7-0226-SM-4AD5O	19.47812207	
GTEX-S4Z8-0126-SM-4DICC	8.169641869	
GTEX-T6MO-0126-SM-4DM6X	9.215719982	
GTEX-TKQ2-0226-SM-4DM6V	9.47126268	
GTEX-TMMY-0126-SM-4DXTP	4.971979087	
GTEX-U3ZM-0226-SM-4DXS7	5.270229732	
GTEX-U3ZN-0826-SM-4DXSZ	16.19983829	
GTEX-U4B1-0126-SM-4DXSN	12.44530636	
GTEX-UJMC-0226-SM-4IHHLH	2.638398603	
GTEX-V1D1-0226-SM-4JBHG	7.373999971	
GTEX-V955-0126-SM-4JBH5	14.39224048	
GTEX-VJYA-0526-SM-4KL1R	4.710993087	
GTEX-VUSG-1526-SM-4KKZH	11.60007679	
GTEX-W5WG-1126-SM-4LLMK4	11.22656689	
GTEX-WFGB-0126-SM-4LVMK4	22.48118354	
GTEX-WHPG-1526-SM-4M12K	24.2039432	
GTEX-WQUQ-0126-SM-4OOSS	16.43022178	
GTEX-WY7C-0326-SM-4OND5	5.848479615	
GTEX-WYVS-0226-SM-4OAS7	9.914502899	
GTEX-X4LF-0126-SM-4QAS7	10.45916311	
GTEX-XMK1-0226-SM-4B65D	7.893091473	
GTEX-XQ3S-1726-SM-4BOOD	13.18436255	
GTEX-XUZC-0226-SM-4BROV	6.116539054	
GTEX-XV7Q-0226-SM-4BRV7	10.46445489	
GTEX-XYKS-0926-SM-4BRVG	16.71498566	
GTEX-Y114-0526-SM-4TT8V	3.597548235	
GTEX-Y3IK-0226-SM-51MRJ	17.14030862	
GTEX-Y5LM-0126-SM-4VBRJ	11.37076918	
GTEX-Y5V5-1326-SM-4V6G9	5.055219041	
GTEX-Y5V6-1926-SM-5IFIL	10.44559212	
GTEX-Y9LG-0126-SM-5O59W	15.31906559	
GTEX-YB5E-0226-SM-5IFIH	3.697961056	
GTEX-YF7O-0126-SM-5IFIR	3.31477613	
GTEX-YFCO-0126-SM-4W1YT	10.87499582	
GTEX-ZA64-0226-SM-5HL9C	3.421538231	
GTEX-ZDTT-0126-SM-4WKHA	3.131169427	
GTEX-ZF2S-0126-SM-4WKFO	11.34826972	
GTEX-ZLFU-0826-SM-4WWBP	7.077501019	
GTEX-ZLV1-0226-SM-4WWC1	9.735716417	
GTEX-ZLWG-0126-SM-4WWC5	3.967303771	
GTEX-ZP4G-0126-SM-4YCE3	8.713503397	
GTEX-ZT9W-0126-SM-4YCFD	4.958244359	
GTEX-ZT9X-0126-SM-4YCFC	19.28773295	
GTEX-ZTSS-0326-SM-5987M	3.706647509	
GTEX-ZUA1-1926-SM-5E45E	3.824574428	
GTEX-ZVAP-0126-SM-5NQ7D	4.214387916	
GTEX-ZVT2-0826-SM-5GIEO	7.654817797	
GTEX-ZY6K-0126-SM-5SIAM	6.465563667	
GTEX-ZYFG-0926-SM-5BC5U	8.80334943	
GTEX-ZYVF-1626-SM-5N9EH	5.751760205	
GTEX-ZZPU-1226-SM-5N9CK	5.196218151	

ACC, adrenocortical carcinoma; TNFSF13B, tumor necrosis factor ligand superfamily member 13B.

Table S2 E3 ligases predicted by Ubibrowser

Rank	E3	Description	Confidence level	Score
1	SYVN1	E3 ubiquitin-protein ligase synoviolin	MIDDLE	0.714
2	CBL	E3 ubiquitin-protein ligase CBL	MIDDLE	0.676
3	TRAF6	TNF receptor-associated factor 6	MIDDLE	0.671
4	MIB1	E3 ubiquitin-protein ligase MIB1	MIDDLE	0.668
5	MALT1	Mucosa-associated lymphoid tissue lymphoma translocation protein 1	LOW	0.657
6	TRAF3IP2	Adapter protein CIKS	LOW	0.653
7	TRAF2	TNF receptor-associated factor 2	LOW	0.653
8	TRAF5	TNF receptor-associated factor 5	LOW	0.649
9	SMURF1	E3 ubiquitin-protein ligase SMURF1	LOW	0.647
10	STUB1	E3 ubiquitin-protein ligase CHIP	LOW	0.64
11	NEDD4	E3 ubiquitin-protein ligase NEDD4	LOW	0.64
12	PAFAH1B1	Platelet-activating factor acetylhydrolase IB subunit alpha	LOW	0.64
13	MARCH1	E3 ubiquitin-protein ligase MARCH1	LOW	0.633
14	MARCH8	E3 ubiquitin-protein ligase MARCH8	LOW	0.633
15	BIRC2	Baculoviral IAP repeat-containing protein 2	LOW	0.628
16	NEDD4L	E3 ubiquitin-protein ligase NEDD4-like	LOW	0.621
17	MDM2	E3 ubiquitin-protein ligase Mdm2	LOW	0.619
18	CADPS2	Calcium-dependent secretion activator 2	LOW	0.615
19	RPH3AL	Rab effector Noc2	LOW	0.615
20	SYTL4	Synaptotagmin-like protein 4	LOW	0.615
21	WDTC1	WD and tetratricopeptide repeats protein 1	LOW	0.615
22	STC1	Stanniocalcin-1	LOW	0.615
23	IBTK	Inhibitor of Bruton tyrosine kinase	LOW	0.615
24	GNB1	Guanine nucleotide-binding protein G(l)/G(S)/G(T) subunit beta-1	LOW	0.615
25	PHIP	PH-interacting protein	LOW	0.613
26	DTX1	E3 ubiquitin-protein ligase DTX1	LOW	0.613
27	PML	Protein PML	LOW	0.613
28	CBLC	E3 ubiquitin-protein ligase CBL-C	LOW	0.613
29	PHRF1	PHD and RING finger domain-containing protein 1	LOW	0.613
30	SOCS7	Suppressor of cytokine signaling 7	LOW	0.613
31	ERCC8	DNA excision repair protein ERCC-8	LOW	0.613
32	TRIM33	E3 ubiquitin-protein ligase TRIM33	LOW	0.613
33	ZEB2	Zinc finger E-box-binding homeobox 2	LOW	0.613
34	MARCH9	E3 ubiquitin-protein ligase MARCH9	LOW	0.604
35	UBE3C	Ubiquitin-protein ligase E3C	LOW	0.604
36	FZR1	Fizzy-related protein homolog	LOW	0.604
37	GAN	Gigaxonin	LOW	0.604
38	MARCH11	E3 ubiquitin-protein ligase MARCH11	LOW	0.604
39	MARCH4	E3 ubiquitin-protein ligase MARCH4	LOW	0.604
40	TTC3	E3 ubiquitin-protein ligase TTC3	LOW	0.604

The data was queried and downloaded from UbiBrowser (<http://ubibrowser.ncpsb.org/>).

Table S3 Abbreviations of E3 type

Abbreviations	Description
BC-box	A conserved elongin BC-binding site motif
BTB	Broad-complex, tramtrack and bric à brac
CDC20	Cell division cycle protein 20
DWD	Damage specific DNA binding protein 1-binding WD40 protein
HECT	Homologous to E6-associated protein C-terminus
RING	Really interesting new gene
SOCS	Suppressors of cytokine signaling
UBOX	A modified RING motif without the full complement of Zn ²⁺ -binding ligands
VHL	Von Hippel-Lindau

Table S4 Abbreviations of protein-protein interaction

Abbreviations	Description
CD40LG	Tumor necrosis factor ligand superfamily member 5
TNF	Tumor necrosis factor
TNFRSF13B	Tumor necrosis factor receptor superfamily member 13B
TNFRSF13C	Tumor necrosis factor receptor superfamily member 13C
TNFRSF17	Tumor necrosis factor receptor superfamily member 17
TNFRSF1B	Tumor necrosis factor receptor superfamily member 1B
TNFSF11	Tumor necrosis factor ligand superfamily member 11
TNFSF12	Tumor necrosis factor ligand superfamily member 12
TNFSF13B	Tumor necrosis factor ligand superfamily member 13B
TRAF3	Tumor necrosis factor receptor associated factor 3
TRAF6	Tumor necrosis factor receptor associated factor 6