

Supplementary materials

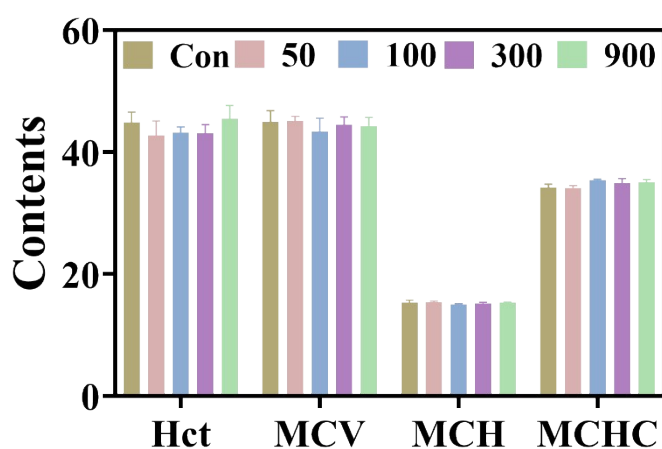


Figure S1, Blood routine examination of mice. Hct, MCV, MCH, MCHC are representative of hematokrit, mean erythrocyte volume, neutrophilic granulocyte percentage and mean corpuscular hemoglobin concentration, respectively.

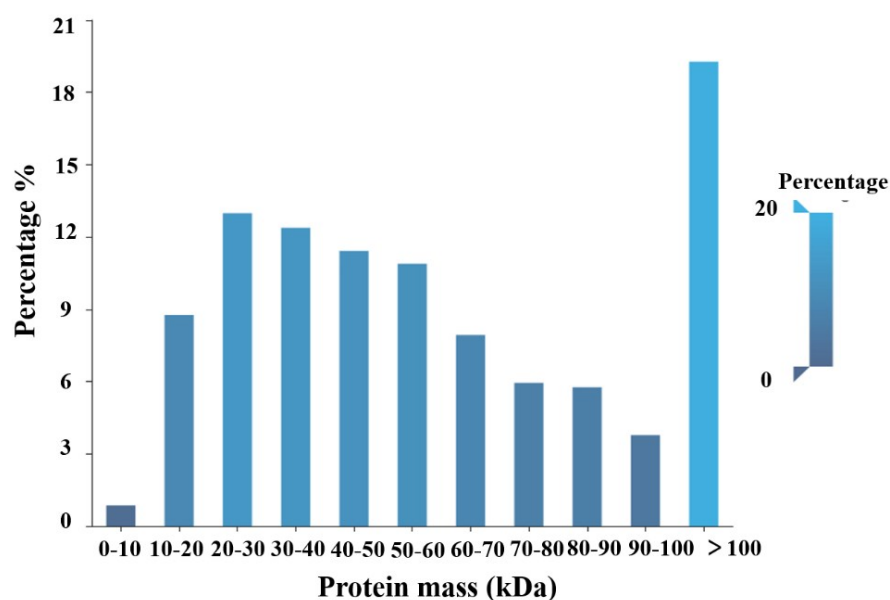


Figure S2. All identified protein sequences. X axis: Protein molecular weight range

(kDa), Y axis: protein ratio.

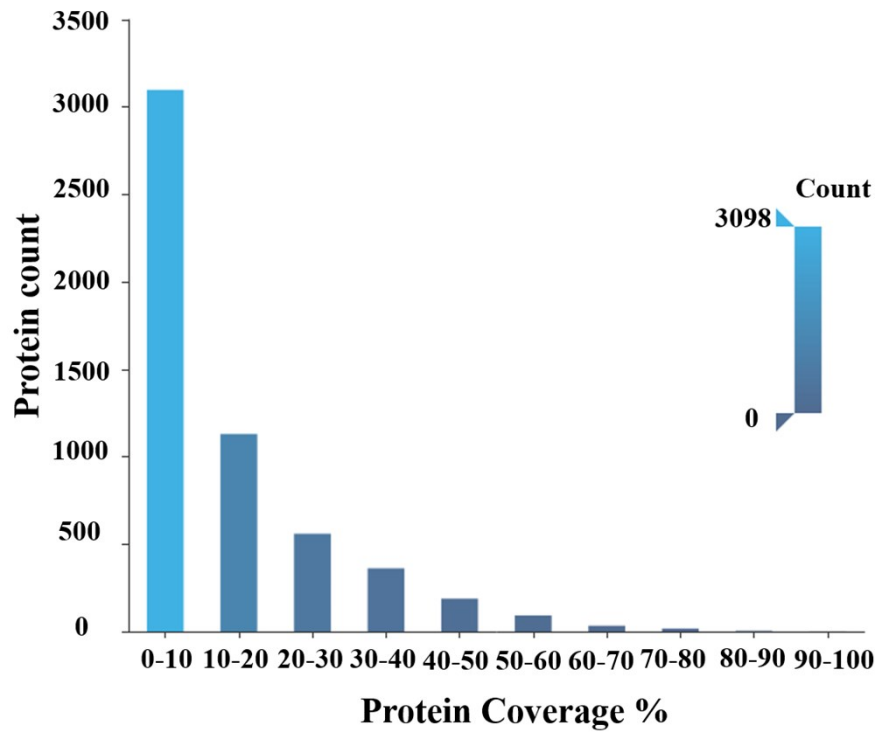


Figure S3. Protein coverage distribution. X axis: protein coverages, Y axis: protein number.

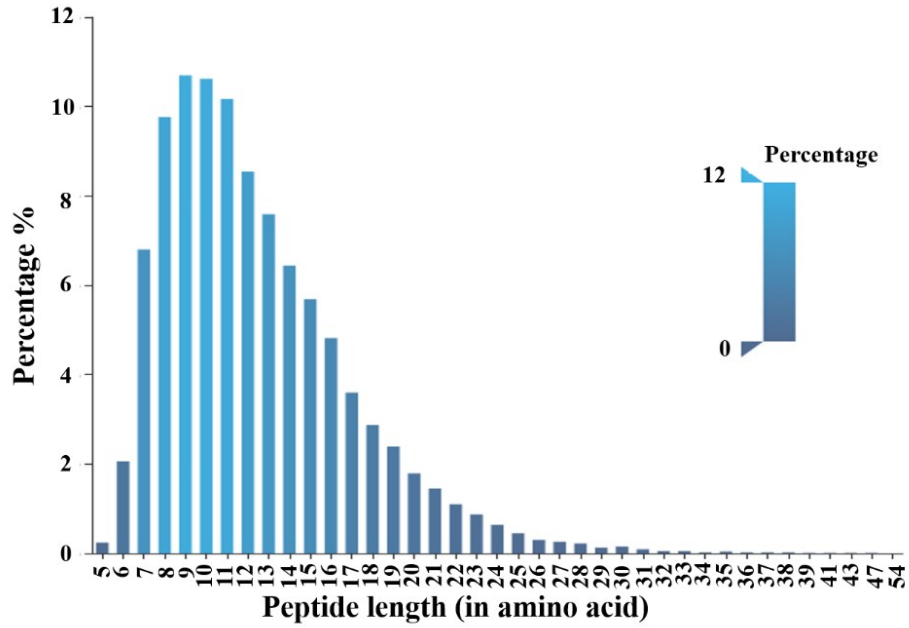


Figure S4. Peptide length distribution. X axis: peptide length (in amino acids), Y axis: percentage of corresponding peptide.

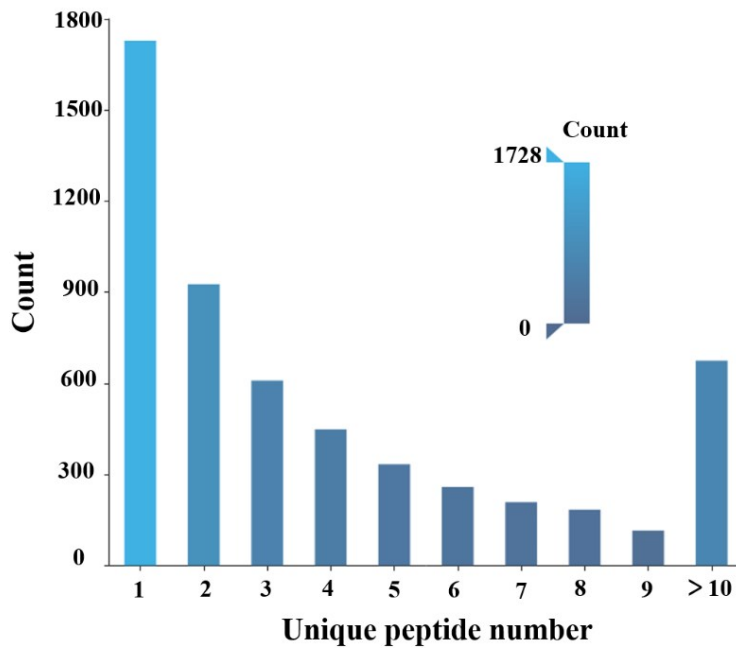


Figure S5. Unique peptide number distribution. X axis: unique peptide number, Y axis: protein number.

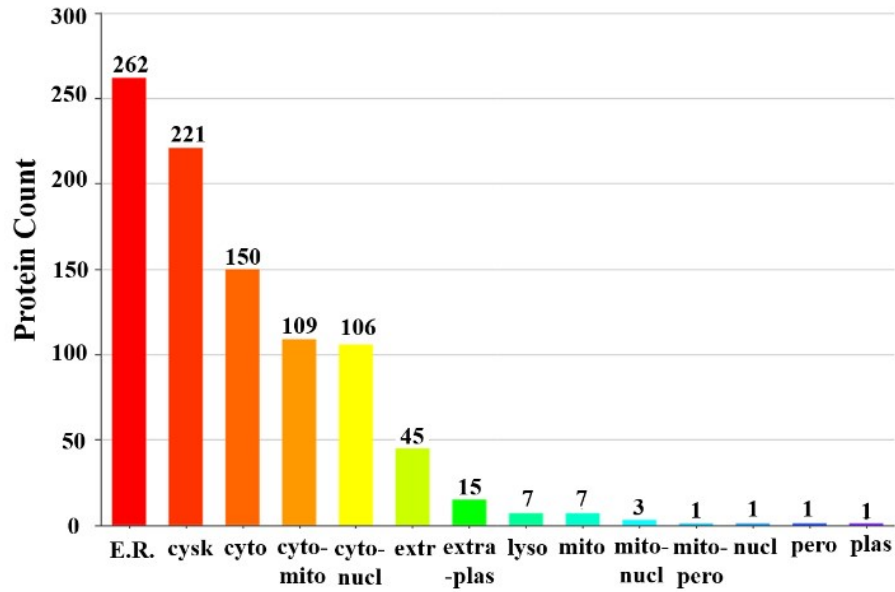


Figure S6. Subcellular localization of DEPs. Control: tumors from model group mice; Treated: tumors from THTF-treated group mice. Abbreviations: E.R.: endoplasmic reticulum; cysk: cytoskeleton; cyto: cytoplasm; mito: mitochondria; nucl: nucleus; extr: extracellular cytoplasm; lyso: lysosome; pero: peroxisome; plas: plasma membrane.

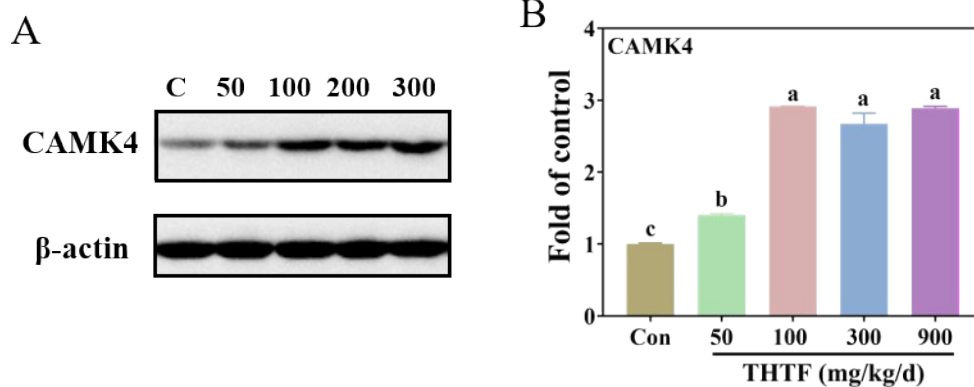


Figure S7. Verification of proteome results. (A) The intensities of CAMK4; (B) The quantitative results of CAMK4 corrected by β -actin.

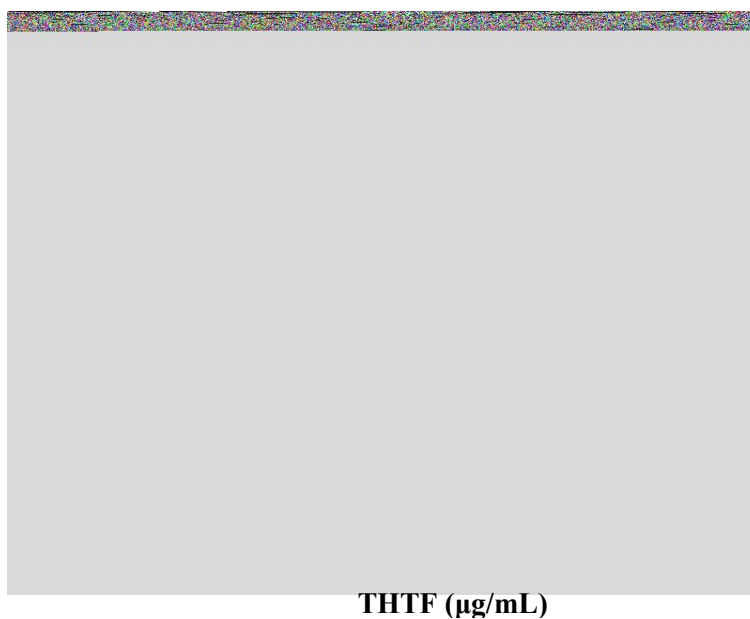


Figure S8. The cell viabilities of A549 cells incubated with different THTF concentrations (100-1000 $\mu\text{g/mL}$)

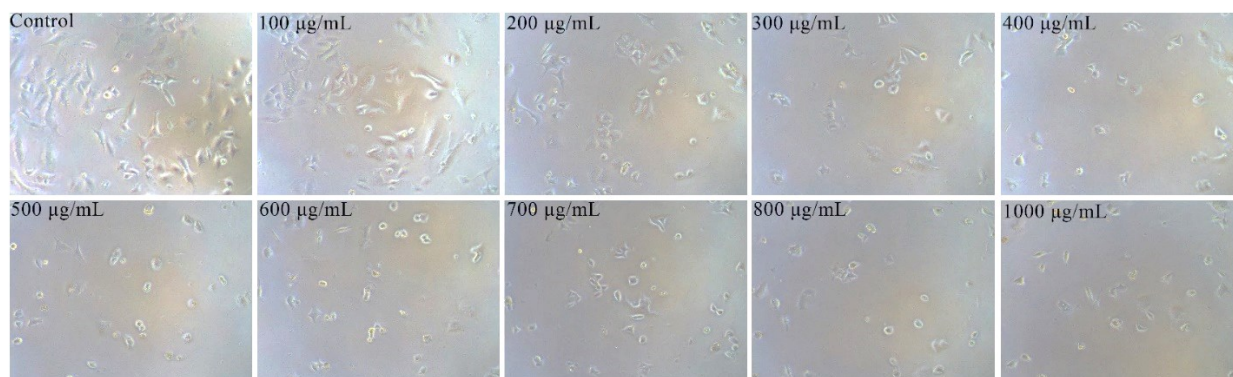


Figure S9. The morphological alternation of A549 cells after THTF treatments.

Table S1. Some of significantly up-regulated DEPs.

Protein_ID	Description	Mean Ratio	P-value_
sp Q8K120 NFAC4_MOUSE	Nuclear factor of activated T-cells, cytoplasmic 4	9.61	8.11E-13
sp P08414 KCC4_MOUSE	Calcium/calmodulin-dependent protein kinase type IV	8.45	2.62E-09
sp E9Q4Z2 ACACB_MOUSE	Acetyl-CoA carboxylase 2	7.86	2.58E-08
sp Q9Z331 K2C6B_MOUSE	Keratin, type II cytoskeletal 6B	5.03	3.45E-09
sp P50446 K2C6A_MOUSE	Keratin, type II cytoskeletal 6A	4.99	1.51E-09
sp Q8CIS0 CAR11_MOUSE	Caspase recruitment domain-containing protein 11	4.72	3.08E-09
sp Q9JM83 CALM4_MOUSE	Calmodulin-4	3.65	1.05E-08
sp Q9D6P8 CALL3_MOUSE	Calmodulin-like protein 3	3.49	1.30E-09
sp Q8R080 GTSE1_MOUSE	G2 and S phase-expressed protein 1	3.49	4.77E-10
sp P20334 TNR9_MOUSE	Tumor necrosis factor receptor superfamily member 9	3.38	1.17E-08
sp P04104 K2C1_MOUSE	Keratin, type II cytoskeletal 1	3.25	3.23E-11
sp P51944 CCNF_MOUSE	Cyclin-F	3.16	7.19E-07
sp Q61161 M4K2_MOUSE	Mitogen-activated protein kinase kinase kinase kinase 2	3.13	0.000001223
sp Q922U2 K2C5_MOUSE	Keratin, type II cytoskeletal 5	3.12	4.86E-11
sp P02535 K1C10_MOUSE	Keratin, type I cytoskeletal 10	3.01	4.74E-13
sp Q9CQ54 NDUC2_MOUSE	NADH dehydrogenase [ubiquinone] 1 subunit C2	2.89	7.06E-07
sp Q61781 K1C14_MOUSE	Keratin, type I cytoskeletal 14	2.84	3.59E-10
sp Q60722 ITF2_MOUSE	Transcription factor 4	2.7	7.03E-10
sp Q99J79 DDB2_MOUSE	DNA damage-binding protein 2	2.62	0.000001706
sp Q6IFZ6 K2C1B_MOUSE	Keratin, type II cytoskeletal 1b	2.31	3.65E-10
sp Q8CE33 KLH11_MOUSE	Kelch-like protein 11	2.26	0.04461
sp Q9CWE0 MFR1L_MOUSE	Mitochondrial fission regulator 1-like	2.1	9.98E-09
sp Q9CQZ7 RPC10_MOUSE	DNA-directed RNA polymerase III subunit RPC10	2.05	4.17E-10

sp Q8K201 KCT2_MOUSE	Keratinocyte-associated transmembrane protein 2	1.95	0.000008778
sp P01639 KV5A7_MOUSE	Ig kappa chain V-V region MOPC 41	1.92	6.01E-07
sp Q9WTR2 M3K6_MOUSE	Mitogen-activated protein kinase kinase kinase 6	1.91	0.0002752
sp P35283 RAB12_MOUSE	Ras-related protein Rab-12	1.91	1.34E-07
sp P01796 HVM27_MOUSE	Ig heavy chain V-III region A4	1.84	0.00006076
sp Q8VHC3 SELM_MOUSE	Selenoprotein M	1.84	0.01116
sp A8E0Y8 IGSF2_MOUSE	Immunoglobulin superfamily member 2	1.83	0.000005656
sp P15306 TRBM_MOUSE	Thrombomodulin	1.83	0.000009708
sp Q8K0E1 KCD15_MOUSE	BTB/POZ domain-containing protein KCTD15	1.83	1.99E-07
sp Q9WV95 PHLA3_MOUSE	Pleckstrin homology-like domain family A member 3	1.83	2.32E-07
sp P51906 EAA3_MOUSE	Excitatory amino acid transporter 3	1.83	2.67E-07
sp Q99JY3 GIMA4_MOUSE	GTPase IMAP family member 4	1.82	0.000005042
sp A1L314 MPEG1_MOUSE	Macrophage-expressed gene 1 protein	1.81	2.52E-07
sp Q8BWM0 PGES2_MOUSE	Prostaglandin E synthase 2	1.81	0.01996
sp Q6S7F2 E2F7_MOUSE	Transcription factor E2F7	1.81	0.0001312
sp Q61337 BAD_MOUSE	Bcl2-associated agonist of cell death	1.23	0.001464

Table S2. Some of significantly down-regulated DEPs.

Protein ID	Protein description	Mean Ratio	P-value
sp Q689Z5 SBNO1_MOUSE	Protein strawberry notch homolog 1	0.49	0.000469
sp P27090 TGFB2_MOUSE	Transforming growth factor beta-2 proprotein	0.51	0.007083
sp A7DTG3 SRTD4_MOUSE	SERTA domain-containing protein 4	0.51	0.00108
sp Q9CX84 RGS19_MOUSE	Regulator of G-protein signaling 19	0.55	5.33E-05
sp P43135 COT2_MOUSE	COUP transcription factor 2	0.56	0.002223
sp Q8R1V4 TMED4_MOUSE	Transmembrane emp24 domain-containing protein 4	0.59	9.22E-05
sp Q80VJ3 DNPH1_MOUSE	2'-deoxynucleoside 5'-phosphate N-hydrolase 1	0.61	0.003155
sp Q8C052 MAP1S_MOUSE	Microtubule-associated protein 1S	0.62	0.01304
sp P59110 SENP1_MOUSE	Sentrin-specific protease 1	0.62	0.01254
sp A2ASI5 SCN3A_MOUSE	Sodium channel protein type 3 subunit alpha	0.62	6.17E-07
sp F6XZJ7 SAM15_MOUSE	Sterile alpha motif domain-containing protein 15	0.63	0.03219
sp O08543 EFNA5_MOUSE	Ephrin-A5	0.63	0.02599
sp Q91WC1 POTE1_MOUSE	Protection of telomeres protein 1 SV=1	0.63	1.03E-05
sp Q8K4E0 ALMS1_MOUSE	Alstrom syndrome protein 1 homolog	0.64	2.28E-07
sp Q64337 SQSTM_MOUSE	Sequestosome-1 (Ubiquitin-binding protein p62)	0.65	0.003064
sp Q3TLS3 GDPP1_MOUSE	GDP-D-glucose phosphorylase 1	0.65	0.01339
sp O35114 SCRB2_MOUSE	Lysosome membrane protein 2 V=3	0.65	0.00011
sp Q9CY21 BUD23_MOUSE	Probable 18S rRNA (guanine-N (7))-methyltransferase	0.66	1.2E-05
sp Q03145 EPHA2_MOUSE	Ephrin type-A receptor 2	0.66	0.000936
sp Q571H0 NPA1P_MOUSE	Nucleolar pre-ribosomal-associated protein 1	0.67	2.52E-05
sp Q9D823 RL37_MOUSE	60S ribosomal protein L37	0.67	0.000191
sp Q8BG17 NOL12_MOUSE	Nucleolar protein 12	0.68	1.11E-05
sp Q9ESW8 PGPI_MOUSE	Pyroglutamyl-peptidase 1	0.68	0.002262
sp Q9CWU9 NUP37_MOUSE	Nucleoporin Nup37		0.000193

sp Q8CJC7 KLRE1_MOUSE	Killer cell lectin-like receptor subfamily E member 1	0.00102
sp O35969 GAMT_MOUSE	Guanidinoacetate N-methyltransferase 1 SV=1	0.001377
sp Q8C1D8 IWS1_MOUSE	Protein IWS1 homolog	4.35E-05
sp Q99JW5 EPCAM_MOUSE	Epithelial cell adhesion molecule	1.65E-06
sp Q91WE3 RPP25_MOUSE	Ribonuclease P protein subunit p25	0.01021

Table S3. The full name of abbreviations in Figure 4.

Abbreviation	Full name
1	calcium pump 1
2	CaM kinase-GR
3	troponin C
4	Immunoglobulin heavy chain gamma polypeptide STNC (Troponin C, skeletal muscle)
5	TCS
Fgg	Fibrinogen gamma chain
Fga	Fibrinogen alpha chain
Fgb	Fibrinogen beta chain
Camk4	Calcium/calmodulin-dependent protein kinase type IV
Xrcc6	X-ray repair cross-complementing protein 6
Actn2	alpha-actinin-2
Myh4	myosin-4
Atp2a1	Sarcoplasmic/endoplasmic reticulum calcium ATPase 1
Tnnc2	Troponin C, skeletal muscle
Mybpc2	Myosin-binding protein C, fast-type
Myh1	Myosin-1
Pygm	Glycogen phosphorylase, muscle form
Des	Desmin
Ttn	Titin
Actn3	alpha-actinin-3
Myh11	Myosin light chain 1/3, skeletal muscle isoform
Myh11	Myosin light chain, phosphorylatable, fast skeletal muscle
Casq1	Calsequestrin-1
Srl	Sarcalumenin

Apobec2	C->U-editing enzyme APOBEC-2
My14	Myosin light chain 4
Tnnt3	Troponin T, fast skeletal muscle
Krt6b	Keratin, type II cytoskeletal 6B
Krt77	Keratin, type II cytoskeletal 1b
Krt14	Keratin, type I cytoskeletal 14
Krt5	Keratin, type II cytoskeletal 5
Krt1	Keratin, type II cytoskeletal 1
Dsg1a	Desmoglein-1-alpha
Pkg1	Plakophilin-1
