

Table S1 The 80 differentially expressed autophagy-related genes

Gene	logFC	Change	P.Value	adj.P.Val
<i>CHMP7</i>	-0.98977	Down	3.88E-11	1.23E-08
<i>PRKCQ</i>	-1.59391	Down	3.12E-10	3.78E-08
<i>ATIC</i>	-1.53864	Down	3.57E-10	3.78E-08
<i>EEF2</i>	-1.26555	Down	6.97E-10	5.52E-08
<i>PARP1</i>	-0.9945	Down	1.07E-08	4.29E-07
<i>EEF2K</i>	-0.82286	Down	3.60E-08	1.04E-06
<i>FUNDC1</i>	-1.29376	Down	4.04E-08	1.07E-06
<i>TP53</i>	-0.92158	Down	8.23E-08	1.86E-06
<i>GNB2L1</i>	-0.76068	Down	1.01E-07	2.14E-06
<i>FOXO1</i>	-0.59277	Down	3.10E-07	6.14E-06
<i>MYC</i>	-1.47835	Down	4.45E-07	8.30E-06
<i>EEF1A1</i>	-0.5537	Down	4.79E-07	8.43E-06
<i>ATG2A</i>	-0.87151	Down	1.77E-06	2.54E-05
<i>PEX3</i>	-0.80383	Down	2.28E-06	3.10E-05
<i>HSPA8</i>	-1.0868	Down	2.44E-06	3.10E-05
<i>ULK3</i>	-0.53033	Down	3.30E-06	3.97E-05
<i>CSNK2B</i>	-0.58472	Down	3.38E-06	3.97E-05
<i>ITGA6</i>	-0.9151	Down	3.54E-06	4.01E-05
<i>BAG3</i>	-1.10656	Down	8.00E-06	7.93E-05
<i>TOMM20</i>	-0.8533	Down	8.73E-06	8.39E-05
<i>HDAC1</i>	-0.56265	Down	1.68E-05	0.000133
<i>ATM</i>	-0.57821	Down	2.70E-05	0.000199
<i>ATG16L1</i>	-0.50975	Down	2.73E-05	0.000199
<i>CAPN2</i>	-0.54642	Down	5.23E-05	0.000307
<i>TOMM70A</i>	-0.76473	Down	5.44E-05	0.000314
<i>UVRAG</i>	-0.63244	Down	6.50E-05	0.000362
<i>IKBKB</i>	-0.50453	Down	7.63E-05	0.000409
<i>ATG16L2</i>	-0.82171	Down	8.13E-05	0.000416
<i>PEA15</i>	-0.76135	Down	0.000131	0.000619
<i>CXCR4</i>	-0.84209	Down	0.000352	0.001468
<i>NAF1</i>	-0.65114	Down	0.000375	0.001542
<i>HSP90AB1</i>	-1.1619	Down	0.000432	0.001734
<i>MTERF3</i>	-0.52777	Down	0.017962	0.039541
<i>WDFY3</i>	1.302258	Up	1.04E-09	6.59E-08
<i>CTSD</i>	1.073091	Up	2.73E-09	1.44E-07
<i>NLRC4</i>	1.529779	Up	1.08E-08	4.29E-07
<i>LAMTOR5</i>	1.14758	Up	1.51E-08	5.31E-07
<i>DRAM1</i>	1.519365	Up	2.65E-08	8.41E-07
<i>WIPI1</i>	1.561021	Up	7.18E-08	1.75E-06
<i>GAPDH</i>	0.880502	Up	6.76E-07	1.13E-05
<i>SH3GLB1</i>	1.154543	Up	8.57E-07	1.36E-05
<i>GABARAPL2</i>	0.900086	Up	1.09E-06	1.64E-05
<i>LAMTOR1</i>	0.590287	Up	2.39E-06	3.10E-05
<i>BIRC5</i>	0.591209	Up	4.21E-06	4.60E-05
<i>EPAS1</i>	0.78368	Up	4.37E-06	4.62E-05
<i>RB1</i>	0.715925	Up	6.09E-06	6.22E-05
<i>DLC1</i>	0.517307	Up	1.00E-05	9.33E-05
<i>GNAI3</i>	1.036794	Up	1.10E-05	9.94E-05
<i>CAMKK2</i>	0.546483	Up	1.18E-05	0.000104
<i>BNIP3L</i>	1.043181	Up	1.34E-05	0.000115
<i>UBAP1</i>	0.568982	Up	1.49E-05	0.000124
<i>VIM</i>	1.057397	Up	1.80E-05	0.00014
<i>ATG3</i>	0.650557	Up	2.96E-05	0.000208
<i>RAB24</i>	0.69984	Up	3.15E-05	0.000216
<i>RRAGD</i>	0.933815	Up	4.15E-05	0.000271
<i>VAMP7</i>	0.842278	Up	4.27E-05	0.000271
<i>KIF5B</i>	0.816962	Up	4.55E-05	0.000278
<i>PTEN</i>	0.680315	Up	4.94E-05	0.000295
<i>MAP1LC3B</i>	0.78259	Up	7.35E-05	0.000402
<i>PLIN3</i>	0.751991	Up	8.61E-05	0.000433
<i>RAB33B</i>	1.286234	Up	0.000243	0.001085
<i>PRKAA1</i>	0.620418	Up	0.000256	0.001126
<i>ERO1L</i>	0.845268	Up	0.000479	0.001897
<i>RAB11A</i>	0.642973	Up	0.000546	0.002061
<i>HIF1A</i>	0.913129	Up	0.001202	0.004233
<i>NAMPT</i>	0.86985	Up	0.001654	0.005639
<i>LAMTOR3</i>	0.718388	Up	0.00208	0.006728
<i>CASP3</i>	0.733249	Up	0.002235	0.007016
<i>TNFSF10</i>	0.593743	Up	0.002493	0.007672
<i>RAB1A</i>	0.516626	Up	0.003056	0.008888
<i>CASP4</i>	0.509236	Up	0.003318	0.009392
<i>CHMP4C</i>	0.777642	Up	0.003518	0.009853
<i>RB1CC1</i>	0.626841	Up	0.003543	0.009853
<i>CHMP2B</i>	0.583019	Up	0.004029	0.010764
<i>SESN2</i>	0.575343	Up	0.004041	0.010764
<i>TBK1</i>	0.640812	Up	0.004335	0.011357
<i>FKBP1B</i>	0.553929	Up	0.006004	0.015473
<i>PRKAR1A</i>	0.547892	Up	0.006077	0.015536
<i>VPS37A</i>	0.524276	Up	0.014702	0.033054
<i>PRKCD</i>	0.509916	Up	0.037552	0.075343

Table S2 The relationship between the hub genes and immune infiltration

Gene	immune_cells	Cor	P value
<i>GABARAPL2</i>	Plasma cells	0.412949	0.023329
<i>GABARAPL2</i>	T cells CD8	-0.55684	0.001657
<i>GABARAPL2</i>	T cells CD4 naive	-0.42736	0.019304
<i>GABARAPL2</i>	T cells CD4 memory activated	-0.21558	0.252583
<i>GABARAPL2</i>	NK cells resting	-0.54616	0.002101
<i>GABARAPL2</i>	Macrophages M0	0.324394	0.080303
<i>GABARAPL2</i>	Eosinophils	0.660512	0.000105
<i>ULK3</i>	Plasma cells	-0.24519	0.191577
<i>ULK3</i>	T cells CD8	0.693437	3.48E-05
<i>ULK3</i>	T cells CD4 naive	0.315684	0.089579
<i>ULK3</i>	T cells CD4 memory activated	0.416323	0.022114
<i>ULK3</i>	NK cells resting	0.482981	0.007464
<i>ULK3</i>	Macrophages M0	-0.36118	0.049883
<i>ULK3</i>	Eosinophils	-0.58131	0.000935
<i>GAPDH</i>	Plasma cells	0.284125	0.128097
<i>GAPDH</i>	T cells CD8	-0.25295	0.176895
<i>GAPDH</i>	T cells CD4 naive	-0.55239	0.001831
<i>GAPDH</i>	T cells CD4 memory activated	-0.51031	0.003962
<i>GAPDH</i>	NK cells resting	-0.43982	0.015791
<i>GAPDH</i>	Macrophages M0	0.482108	0.006979
<i>GAPDH</i>	Eosinophils	0.370412	0.044674
<i>WDFY3</i>	Plasma cells	0.37023	0.044023
<i>WDFY3</i>	T cells CD8	-0.47186	0.00913
<i>WDFY3</i>	T cells CD4 naive	-0.41268	0.024259
<i>WDFY3</i>	T cells CD4 memory activated	-0.49115	0.00585
<i>WDFY3</i>	NK cells resting	-0.5257	0.003247
<i>WDFY3</i>	Macrophages M0	0.551309	0.00159
<i>WDFY3</i>	Eosinophils	0.541713	0.002315
<i>MAP1LC3B</i>	Plasma cells	0.381355	0.037587
<i>MAP1LC3B</i>	T cells CD8	-0.48031	0.007838
<i>MAP1LC3B</i>	T cells CD4 naive	-0.38554	0.036184
<i>MAP1LC3B</i>	T cells CD4 memory activated	-0.25299	0.177384
<i>MAP1LC3B</i>	NK cells resting	-0.42247	0.020852
<i>MAP1LC3B</i>	Macrophages M0	0.360259	0.050512
<i>MAP1LC3B</i>	Eosinophils	0.531034	0.002906
<i>DRAM1</i>	Plasma cells	0.482812	0.006884
<i>DRAM1</i>	T cells CD8	-0.59867	0.000606
<i>DRAM1</i>	T cells CD4 naive	-0.3535	0.055994
<i>DRAM1</i>	T cells CD4 memory activated	-0.20691	0.272622
<i>DRAM1</i>	NK cells resting	-0.74594	4.97E-06
<i>DRAM1</i>	Macrophages M0	0.533836	0.00238
<i>DRAM1</i>	Eosinophils	0.728142	9.67E-06
<i>WIPI1</i>	Plasma cells	0.29347	0.115491
<i>WIPI1</i>	T cells CD8	-0.48254	0.007525
<i>WIPI1</i>	T cells CD4 naive	-0.44783	0.013829
<i>WIPI1</i>	T cells CD4 memory activated	-0.38804	0.034101
<i>WIPI1</i>	NK cells resting	-0.39577	0.031224
<i>WIPI1</i>	Macrophages M0	0.508087	0.00415
<i>WIPI1</i>	Eosinophils	0.539933	0.002405