

Supplemental Data 4. Representative biological functions for Common genes of TC/SC and TH/SH in liver and lung tissues

Significant Biological Functions in gene set of COMM* in LIVER				
	Function Annotations <sup>1</sup>	Count <sup>2</sup>	PValue <sup>3</sup>	Representative Genes <sup>4</sup>
A	Signal	60	1.57E-10	Mmp9, Lrtm1, Sorl1, Pglyrp1, Retnlg, Cd52, Ear4, Azgp1, Ear3, Ear2, Saa1,
	Signal peptide	60	9.64E-10	Tgfb1, Csf3r, Ltf, Itih3, Ceacam2, Dhcr24, Pilra, Egfr, Kng1, Apcs, Camp, Prg2,
	Disulfide bond	49	3.54E-08	Saa4, Sirpa, C8a, Prok2, Prok1, Sort1, Ctsg, Cxcl1, C9, Prtn3, Fcnb, Fxyd5, Cpn2, Gp49a, Cd177, Serpina1c, Emb, Fgl1, Selp1g, Tyrobp, Ly6c1, Lyz2, Ptpre, Ear6, Chi3l3, Chi3l4, Emilin2, H2-Q8, Fcgr3, Lcn2, Ppib, Hpx, Mpo, Orm2, Retsat, Vldlr, Prdx5, Hs3st3b1, Fpr2, Lgals3, Sell, S100a11
B	Defense response	26	3.46E-13	Cxcl1, C9, Fgr, Fcnb, Pglyrp1, Saa1, Il1b, Kng1, Lyz2, Ngp, Cebpe, Camp,
	Acute inflammatory response	10	5.65E-08	Prg2, Saa4, Myo1f, Chi3l3, Chi3l4, Cotl1, H2-Q8, Stat3, Fcgr3, C8a, Mpo,
	Inflammatory response	14	1.63E-07	Ctsg, Orm2, C8a
C	Defense response to bacterium	9	7.09E-06	Lyz2, Ngp, Cebpe, Fgr, Camp, Prg2, Pglyrp1, Myo1f, Il1b, Ctsg
	Response to bacterium	10	1.52E-05	
D	Chemotaxis	11	6.44E-08	Prok2, Coro1a, Ear3, Ear2, S100a8, Rac2, S100a9, Cmtm7, Il1b, Csf3r, Fpr2,
	Locomotory behavior	12	1.36E-05	Fcgr3, Asl, Selp1g
	Leukocyte migration	6	4.60E-05	
E	Enzyme inhibitor activity	12	9.61E-06	Kng1, Cdkn1c, Ngp, Serpina1c, Itih4, Itih3, Stfa1, Anxa3, Anxa2, Stfa2
	Endopeptidase inhibitor activity	9	8.70E-05	
	Proteinase inhibitor I2, cystatin	5	9.94E-05	
F	Heme binding	9	3.95E-05	Cyp17a1, Hpx, Cyp2a5, Mpo, Cyp2b13, Hbb-B1, Cyp4a14, Retsat, Pkm2
	Secondary metabolites biosynthesis, transport and catabolism	7	4.29E-05	
	Metalloprotein	6	1.27E-04	
	Cytochrome P450	6	3.74E-04	

G	Aminoglycan metabolic process	6	1.16E-04	Pglyrp1, Itih4, Chi3l3, Prss34, Itih3, Chi3l4
	Polysaccharide metabolic process	6	0.001635	
H	Complement and coagulation cascades	6	0.001602	C8a, Kng1, C9, C6, F13a1
I	Low density lipoprotein-receptor, class A	5	7.01E-04	C8a, C9, C6, Sorl1, Vldlr
Significant Biological Functions in gene set of COMM* in LUNG				
	Function Annotations <sup>1</sup>	Count <sup>2</sup>	PValue <sup>3</sup>	Representative Genes <sup>4</sup>
A	Defense response	49	6.77E-18	RARRES2, ADORA3, TLR1, TLR2, PGLYRP1, TIRAP, TLR6, CFP, MYD88, CD44, HAMP, IL1B, REG3G, RAB27A, IL18RAP, NGP, NCF1, CAMP, PRG2, SAA3, CTSG, TNFAIP8L2, HAMP2, NFKBID, FGR, FCNB, NLRX1, CCL5, AHSG, SLC11A1, MEFV, BCL3, SELP, PTPN6, LYZ1, CEBPE, TLR13, H2-Q1, SAMHD1, MYO1F, COTL1, FCGR3, ORM1, ITGB2L, FCGR2B, MPO, ALOX5, CD14, BMP6
	Response to wounding	35	8.98E-12	
	Inflammatory response	26	4.16E-10	
B	Cell activation	26	2.71E-09	ITGAL, SBNO2, LST1, ADORA3, TLR1, SFPI1, TPD52, ITGAM, TIMP1, SLC11A1, BCL3, LTBB, RAB27A, FYB, PIK3CD, MYO1F, EVL, NFAM1, VAV1, WAS, FCGR3, FCGR2B, CCND3, PLCG2, LCP1, LCP2
	myeloid leukocyte activation	10	1.38E-07	
	Leukocyte activation	22	1.42E-07	
C	Positive regulation of cytokine biosynthetic process	9	7.95E-06	FCER1A, APOA2, MYD88, TLR1, BCL3, IL1B, TLR6, LTBB, FCGR3
	Regulation of tumor necrosis factor production	6	4.89E-04	
D	Chemotaxis	14	3.22E-06	S100A8, S100A9, CCL9, FPR2, CCL5, ITGAM, FCGR3, PROK2, CORO1A, RAC2, ROBO1, CMTM7, CSF3R, IL1B
	Leukocyte migration	8	8.75E-05	
E	Regulation of protein kinase cascade	16	7.94e-06	FCER1A, PTPN6, LST1, ADORA3, LITAF, NFKBID, HCLS1, TIRAP, CDC42SE1, TLR6, OSM, MYD88, MDFIC, NLRP12, IL1B, LTBB
	regulation of I-kappaB kinase/NF-kappaB cascade	8	5.29e-05	
F	carbohydrate catabolic process	10	1.85E-04	OVGP1, BCLP2, TALDO1, ADPGK, HK3, PKM2, PGD, PGLYRP1, LOC100045967, GAPDH, ENO1

