

Table S3 Differentiation in lncRNA targets genes and DEPs involved with altitude hypoxia adaptation

Description	Pathway		
Metabolism of cofactors and vitamins	Retinol metabolism(ko00830)	DE lncRNA target genes	UGT2B31; UGT2C1; CYP4A6; RDH16; HSD17B6; BCO1; UGT1A3; ADH1C ; ADH6; CYP2B4; CYP2B11; CYP2C18; CYP3A28; CYP3A24; CYP1A2; CYP1A1
		DEPs	ALDH1A1; ADH1C ; AOX1
Cancer: overview	Chemical carcinogenesis - DNA adducts(ko05204)	DE lncRNA target genes	UGT2B31; UGT2C1; UGT1A3; CYP2E1; CYP2A13; SULT2A1; ADH1C ; CBR1; ADH6; CYP2B4; CYP2B11; CYP2C18; GSTA1; CYP3A28; CYP3A24; CYP1A2; CYP1A1
		DEPs	GSTM5; ADH1C ; HSD11B1; GSTT1
Lipid metabolism	Steroid hormone biosynthesis (ko00140)	DE lncRNA target genes	CYP2D14; UGT2B31; UGT2C1; HSD17B6; AKR1D1; HSD17B12-B; UGT1A3; AKR1C1 ; PGFS ; CYP2E1; CYP2B4; CYP2B11; CYP3A28; CYP3A24; CYP1A2; CYP1A1
		DEPs	AKR1C1 ; PGFS ; HSD11B1
Endocrine system	PPAR signaling pathway(ko03320)	DE lncRNA target genes	APOA2 ; FABP1; HMGCS2; CYP4A6; SLC27A2; PCK1; FABP4 ; CYP8B1; APOC3
		DEPs	APOA2 ; CPT1A; FABP4 ; ACSL3; FABP7; EHHADH; APOC3; APOA1; ACAA1; ACOX3
Xenobiotics biodegradation and metabolism	Metabolism of xenobiotics by cytochrome P450(ko00980)	DE lncRNA target genes	UGT2B31; UGT2C1; UGT1A3; CYP2E1; CYP2A13; SULT2A1; ADH1C ; CBR1; ADH6; GSTA1; CYP1A2; CYP1A1
		DEPs	GSTM5; ADH1C ; HSD11B1; GSTT1; CYP2F3
Digestive system	Cholesterol metabolism(ko04979)	DE lncRNA target genes	APOA2 ; ABCB11; APOC2; APOH ; APOB; APOA4; APOC3
		DEPs	APOA2 ; TSPO; APOH ; APOE; APOC3 ; APOA1; NPC1
Digestive system	Fat digestion and absorption(ko04975)	DE lncRNA target genes	FABP1; MTP; APOB; APOA4
		DEPs	APOA4 ; APOA1
Biological processes	inflammatory response (GO:0006954)	DE lncRNA target genes	APOA2 ; KNG1; AHSG; A1M ; C3; C5; C9; CRP ; LBP ; HP; KLKB1; TF; C8A; AOC3; AOC3; F2; VTN; IDO1 ; C3
		DEPs	CRP ; A1M ; APOA2 ; LBP ; TFRC; THBS1; C4BPA; ORM1; ITIH4; CFP; HLA-DRB1; EPHX2; VNN1; FN1; GPX1; IDO1
Biological processes	Protein activation cascade (GO:0072376)	DE lncRNA target genes	KNG1; A1M ; C3; C5; C9; APOH ; CRP ; MASP2; FGG; FGB; KLKB1; C8A; F2; IGLV1-40 ; C3
		DEPs	IGKC; A1M ; APOH ; VWF; CFD; F9; C4BPA; CRP ; CLU; CFP; IGLV2-11; IGLV3-25; IGLV3-19; C1QC; IGLV1-40 ; IGLV2-14; IGLV3-1
Biological processes	Response to lipid (GO:0033993)	DE lncRNA target genes	APOA2 ; SLC01B3; HMGCS2; CYP4A6; GC; FHL2; FBP1 ; ALDOB ; KRT19 ; AKR1C1 ; PGFS ; CRP ; LBP ; PAH; HP; PCK1; HMBS; SULT2A1; ADH1C ; CBR1; TAT; ADH6; ARG1; FABP4 ; FOS; CDO1; HAVCR1; CYP3A24; CYP3A24; CCL3; ABCC2; CYP1A2; CYP1A1; TTR; GBP6

		DEPs	KRT19 ; TSPO; APOA2 ; PDXK; ALDOB ; NASP; FBP1 ; CRP ; GPX4; MGP; LBP ; ACAT2; PRKCG; CST3; ADH1C ; SPARC; GBP3; CPT1A; PGFS ; TNC; AKR1C1 ; FABP4 ; CA2; PYCARD; THBS1; GSTM5; ORM1; S100B; CAT; PNMT; MAOB; HSPB6; CDK6; HSD11B1; GPX1; STAT1; FN1
Biological processes	Humoral immune response (GO:0006959)	DE lncRNA target genes	A1M ; C3; C5; C9; CRP ; MASP2; FGB; ZP2; C8A; IGLV1-40 ; TUBA8
		DEPs	IGKC; A1M ; IGHA1; HLA-DRB1; CFD; IGLV3-19; C4BPA; CRP ; CLU; CFP; IGLV3-1; IGLV3-25; IGLV1-40 ; C1qc; BOLA-DQB; IGLV2-14; IGLV2-11
Biological processes	Response to oxygen-containing compound (GO:1901700)	DE lncRNA target genes	APOA2 ; AHSB; FABP1; HMGCS2; FBP1 ; ALDOB ; ACTC1; AKR1C1 ; PGFS ; CDH1; CRP ; HNF4A; LBP ; NPPA; HP; PCK1; SULT2A1; ADH1C ; ADH6; ARG1; FABP4 ; FOS; TF; CDO1; CCL3; GCGR; GBP6
		DEPs	CRP ; TSPO; APOA2 ; LBP ; ALDOB ; PRKCG; FBP1 ; ADH1C ; CA3; GBP3; CPT1A; HBB; TNC; CST3; FABP4 ; FBLN5; HSPB6; PYCARD; ACAT2; THBS1; AKR1C1 ; ORM1; SPARC; IGLV2-14; IGLV2-11; PGFS ; ACTG2; PNMT; MAOB; HLA-DRA; STAT1; FN1; ACTA1; CAT; HBA1; GPX1; MYH11; APOM; HSD11B1
Biological processes	Immune effector process (GO:0002252)	DE lncRNA target genes	APOA2 ; A1M ; C3; MX2; PGLYRP2; C5; C9; IFI16 ; CRP ; LBP ; HPX ; MASP2; TUBB4A; C8A; CCL3; CFHR2 ; HLA-DMB; IGLV1-40 ; C3
		DEPs	IGKC; A1M ; APOA2 ; LBP ; LGALS1; MX1; C4BPA; CRP ; SAMHD1; GBP3; FADD; HPX ; IFI16 ; PGLYRP1; CLU; S100B; HLA-DRB1; CFD; RFTN1; C1QC; CD74; IGHA1; PYCARD; IGLV3-25; STAT1; MPO; LGALS3; CFP; CFHR2 ; BOLA-DQB; IGLV2-14; IGLV2-11; IGLV1-40 ; IGLV3-1; IGLV3-19
Biological processes	Regulation of cell proliferation (GO:0042127)	DE lncRNA target genes	KNG1; FABP1; AKR1C1 ; PGFS ; CPB2; CDH1; APOH ; NAP1L1; FAP; LRG1; HPN; ARG1; FABP4 ; RGN ; TF; ICA ; CCL3; F2; KLB; IDO1 ; CXCR3; HLA-DMB; ABCC4
		DEPs	FABP4 ; TSPO; OGN; PRKCG; SPTA1; RIDA; CST3; GPX1; CLU; PGFS ; TNC; ECM1; TFF2; AKR1C1 ; CD74; RGN ; THBS1; APOH ; FADD; COL18A1; LGALS3; PRKRA; CAMK2A; ABCC4 ; HLA-DRB1; CD109; SPARC; IDO1 ; LAMB1; S100B; SPARCL1; CASK; PYCARD; CDK6; IGHA1; ADK; ICA ; LTF; STAT1
Biological processes	Reactive oxygen species metabolic process (GO:0072593)	DE lncRNA target genes	CRP ; HP; RGN ; CYP1A2; CYP1A1
		DEPs	CRP ; FBLN5; HBB; CAT; MAOB; GPX1; HBA1; GCHFR; GPX4; RGN ; MPO; TXNRD1; GPX3