

Table SI.

	Gene Name	Pathway	Pathway ID
ENSG00000001084	GCLC	Biological oxidations	R-HSA-211859
ENSG00000001630	CYP51A1	Biological oxidations	R-HSA-211859
ENSG00000002726	AOC1	Biological oxidations	R-HSA-211859
ENSG00000003137	CYP26B1	Biological oxidations	R-HSA-211859
ENSG00000006625	GGCT	Biological oxidations	R-HSA-211859
ENSG00000007933	FMO3	Biological oxidations	R-HSA-211859
ENSG00000008394	MGST1	Biological oxidations	R-HSA-211859
ENSG00000010932	FMO1	Biological oxidations	R-HSA-211859
ENSG00000012504	NR1H4	Biological oxidations	R-HSA-211859
ENSG00000015413	DPEP1	Biological oxidations	R-HSA-211859
ENSG00000019186	CYP24A1	Biological oxidations	R-HSA-211859
ENSG00000021461	CYP3A43	Biological oxidations	R-HSA-211859
ENSG00000023909	GCLM	Biological oxidations	R-HSA-211859
ENSG00000036530	CYP46A1	Biological oxidations	R-HSA-211859
ENSG00000038274	MAT2B	Biological oxidations	R-HSA-211859
ENSG00000053371	AKR7A2	Biological oxidations	R-HSA-211859
ENSG00000059377	TBXAS1	Biological oxidations	R-HSA-211859
ENSG00000063438	AHRR	Biological oxidations	R-HSA-211859
ENSG00000065621	GSTO2	Biological oxidations	R-HSA-211859
ENSG00000066813	ACSM2B	Biological oxidations	R-HSA-211859
ENSG00000069535	MAOB	Biological oxidations	R-HSA-211859
ENSG00000073067	CYP2W1	Biological oxidations	R-HSA-211859
ENSG00000084207	GSTP1	Biological oxidations	R-HSA-211859
ENSG00000084676	NCOA1	Biological oxidations	R-HSA-211859
ENSG00000085871	MGST2	Biological oxidations	R-HSA-211859
ENSG00000088002	SULT2B1	Biological oxidations	R-HSA-211859
ENSG00000088826	SMOX	Biological oxidations	R-HSA-211859
ENSG00000093010	COMT	Biological oxidations	R-HSA-211859
ENSG00000094963	FMO2	Biological oxidations	R-HSA-211859
ENSG00000095303	PTGS1	Biological oxidations	R-HSA-211859
ENSG00000095596	CYP26A1	Biological oxidations	R-HSA-211859
ENSG00000096384	HSP90AB1	Biological oxidations	R-HSA-211859
ENSG00000099984	GSTT2	Biological oxidations	R-HSA-211859
ENSG00000099998	GGT5	Biological oxidations	R-HSA-211859
ENSG00000100031	GGT1	Biological oxidations	R-HSA-211859
ENSG00000100197	CYP2D6	Biological oxidations	R-HSA-211859
ENSG00000100243	CYB5R3	Biological oxidations	R-HSA-211859
ENSG00000100577	GSTZ1	Biological oxidations	R-HSA-211859
ENSG00000100983	GSS	Biological oxidations	R-HSA-211859
ENSG00000101444	AHCY	Biological oxidations	R-HSA-211859
ENSG00000103018	CYB5B	Biological oxidations	R-HSA-211859
ENSG00000104331	IMPAD1	Biological oxidations	R-HSA-211859
ENSG00000105398	SULT2A1	Biological oxidations	R-HSA-211859
ENSG00000106258	CYP3A5	Biological oxidations	R-HSA-211859
ENSG00000106546	AHR	Biological oxidations	R-HSA-211859
ENSG00000108242	CYP2C18	Biological oxidations	R-HSA-211859
ENSG00000108602	ALDH3A1	Biological oxidations	R-HSA-211859
ENSG00000109181	UGT2B10	Biological oxidations	R-HSA-211859
ENSG00000109193	SULT1E1	Biological oxidations	R-HSA-211859
ENSG00000109814	UGDH	Biological oxidations	R-HSA-211859
ENSG00000110711	AIP	Biological oxidations	R-HSA-211859
ENSG00000110958	PTGES3	Biological oxidations	R-HSA-211859

ENSG00000111012	CYP27B1	Biological oxidations	R-HSA-211859
ENSG00000111275	ALDH2	Biological oxidations	R-HSA-211859
ENSG00000114631	PODXL2	Biological oxidations	R-HSA-211859
ENSG00000114771	AADAC	Biological oxidations	R-HSA-211859
ENSG00000114779	ABHD14B	Biological oxidations	R-HSA-211859
ENSG00000115138	POMC	Biological oxidations	R-HSA-211859
ENSG00000116704	SLC35D1	Biological oxidations	R-HSA-211859
ENSG00000116984	MTR	Biological oxidations	R-HSA-211859
ENSG00000117448	AKR1A1	Biological oxidations	R-HSA-211859
ENSG00000117791	MARC2	Biological oxidations	R-HSA-211859
ENSG00000124212	PTGIS	Biological oxidations	R-HSA-211859
ENSG00000124275	MTRR	Biological oxidations	R-HSA-211859
ENSG00000124588	NQO2	Biological oxidations	R-HSA-211859
ENSG00000124786	SLC35B3	Biological oxidations	R-HSA-211859
ENSG00000127948	POR	Biological oxidations	R-HSA-211859
ENSG00000128294	TPST2	Biological oxidations	R-HSA-211859
ENSG00000128965	CHAC1	Biological oxidations	R-HSA-211859
ENSG00000130540	SULT4A1	Biological oxidations	R-HSA-211859
ENSG00000130649	CYP2E1	Biological oxidations	R-HSA-211859
ENSG00000131067	GGT7	Biological oxidations	R-HSA-211859
ENSG00000131069	ACSS2	Biological oxidations	R-HSA-211859
ENSG00000131471	AOC3	Biological oxidations	R-HSA-211859
ENSG00000131480	AOC2	Biological oxidations	R-HSA-211859
ENSG00000132744	ACY3	Biological oxidations	R-HSA-211859
ENSG00000133313	CNDP2	Biological oxidations	R-HSA-211859
ENSG00000133433	GSTT2B	Biological oxidations	R-HSA-211859
ENSG00000134184	GSTM1	Biological oxidations	R-HSA-211859
ENSG00000134201	GSTM5	Biological oxidations	R-HSA-211859
ENSG00000134202	GSTM3	Biological oxidations	R-HSA-211859
ENSG00000134716	CYP2J2	Biological oxidations	R-HSA-211859
ENSG00000135220	UGT2A3	Biological oxidations	R-HSA-211859
ENSG00000135226	UGT2B28	Biological oxidations	R-HSA-211859
ENSG00000135929	CYP27A1	Biological oxidations	R-HSA-211859
ENSG00000137124	ALDH1B1	Biological oxidations	R-HSA-211859
ENSG00000137274	BPHL	Biological oxidations	R-HSA-211859
ENSG00000137364	TPMT	Biological oxidations	R-HSA-211859
ENSG00000137714	FDX1	Biological oxidations	R-HSA-211859
ENSG00000137869	CYP19A1	Biological oxidations	R-HSA-211859
ENSG00000138061	CYP1B1	Biological oxidations	R-HSA-211859
ENSG00000138068	SULT6B1	Biological oxidations	R-HSA-211859
ENSG00000138109	CYP2C9	Biological oxidations	R-HSA-211859
ENSG00000138115	CYP2C8	Biological oxidations	R-HSA-211859
ENSG00000138801	PAPSS1	Biological oxidations	R-HSA-211859
ENSG00000139684	ESD	Biological oxidations	R-HSA-211859
ENSG00000140396	NCOA2	Biological oxidations	R-HSA-211859
ENSG00000140459	CYP11A1	Biological oxidations	R-HSA-211859
ENSG00000140465	CYP1A1	Biological oxidations	R-HSA-211859
ENSG00000140505	CYP1A2	Biological oxidations	R-HSA-211859
ENSG00000141096	DPEP3	Biological oxidations	R-HSA-211859
ENSG00000142973	CYP4B1	Biological oxidations	R-HSA-211859
ENSG00000143198	MGST3	Biological oxidations	R-HSA-211859
ENSG00000143437	ARNT	Biological oxidations	R-HSA-211859
ENSG00000143819	EPHX1	Biological oxidations	R-HSA-211859
ENSG00000143942	CHAC2	Biological oxidations	R-HSA-211859
ENSG00000144827	ABHD10	Biological oxidations	R-HSA-211859

ENSG00000145217	SLC26A1	Biological oxidations	R-HSA-211859
ENSG00000145476	CYP4V2	Biological oxidations	R-HSA-211859
ENSG00000145626	UGT3A1	Biological oxidations	R-HSA-211859
ENSG00000146233	CYP39A1	Biological oxidations	R-HSA-211859
ENSG00000148832	PAOX	Biological oxidations	R-HSA-211859
ENSG00000148834	GSTO1	Biological oxidations	R-HSA-211859
ENSG00000149124	GLYAT	Biological oxidations	R-HSA-211859
ENSG00000151224	MAT1A	Biological oxidations	R-HSA-211859
ENSG00000154930	ACSS1	Biological oxidations	R-HSA-211859
ENSG00000155016	CYP2U1	Biological oxidations	R-HSA-211859
ENSG00000155850	SLC26A2	Biological oxidations	R-HSA-211859
ENSG00000156006	NAT2	Biological oxidations	R-HSA-211859
ENSG00000156096	UGT2B4	Biological oxidations	R-HSA-211859
ENSG00000156239	N6AMT1	Biological oxidations	R-HSA-211859
ENSG00000156689	GLYATL2	Biological oxidations	R-HSA-211859
ENSG00000157593	SLC35B2	Biological oxidations	R-HSA-211859
ENSG00000159231	CBR3	Biological oxidations	R-HSA-211859
ENSG00000160868	CYP3A4	Biological oxidations	R-HSA-211859
ENSG00000160870	CYP3A7	Biological oxidations	R-HSA-211859
ENSG00000160882	CYP11B1	Biological oxidations	R-HSA-211859
ENSG00000161513	FDXR	Biological oxidations	R-HSA-211859
ENSG00000162365	CYP4A22	Biological oxidations	R-HSA-211859
ENSG00000162482	AKR7A3	Biological oxidations	R-HSA-211859
ENSG00000162813	BPNT1	Biological oxidations	R-HSA-211859
ENSG00000163106	HPGDS	Biological oxidations	R-HSA-211859
ENSG00000164237	CMBL	Biological oxidations	R-HSA-211859
ENSG00000165092	ALDH1A1	Biological oxidations	R-HSA-211859
ENSG00000165841	CYP2C19	Biological oxidations	R-HSA-211859
ENSG00000166741	NNMT	Biological oxidations	R-HSA-211859
ENSG00000166743	ACSM1	Biological oxidations	R-HSA-211859
ENSG00000166840	GLYATL1	Biological oxidations	R-HSA-211859
ENSG00000167165	UGT1A6	Biological oxidations	R-HSA-211859
ENSG00000167261	DPEP2	Biological oxidations	R-HSA-211859
ENSG00000167600	CYP2S1	Biological oxidations	R-HSA-211859
ENSG00000167741	GGT6	Biological oxidations	R-HSA-211859
ENSG00000167910	CYP7A1	Biological oxidations	R-HSA-211859
ENSG00000168671	UGT3A2	Biological oxidations	R-HSA-211859
ENSG00000168765	GSTM4	Biological oxidations	R-HSA-211859
ENSG00000168906	MAT2A	Biological oxidations	R-HSA-211859
ENSG00000169764	UGP2	Biological oxidations	R-HSA-211859
ENSG00000169902	TPST1	Biological oxidations	R-HSA-211859
ENSG00000170899	GSTA4	Biological oxidations	R-HSA-211859
ENSG00000171234	UGT2B7	Biological oxidations	R-HSA-211859
ENSG00000171428	NAT1	Biological oxidations	R-HSA-211859
ENSG00000171903	CYP4F11	Biological oxidations	R-HSA-211859
ENSG00000171954	CYP4F22	Biological oxidations	R-HSA-211859
ENSG00000172379	ARNT2	Biological oxidations	R-HSA-211859
ENSG00000172817	CYP7B1	Biological oxidations	R-HSA-211859
ENSG00000172828	CES3	Biological oxidations	R-HSA-211859
ENSG00000172831	CES2	Biological oxidations	R-HSA-211859
ENSG00000172955	ADH6	Biological oxidations	R-HSA-211859
ENSG00000173113	TRMT112	Biological oxidations	R-HSA-211859
ENSG00000173597	SULT1B1	Biological oxidations	R-HSA-211859
ENSG00000173610	UGT2A1	Biological oxidations	R-HSA-211859
ENSG00000174156	GSTA3	Biological oxidations	R-HSA-211859

ENSG00000178814	OPLAH	Biological oxidations	R-HSA-211859
ENSG00000179142	CYP11B2	Biological oxidations	R-HSA-211859
ENSG00000180432	CYP8B1	Biological oxidations	R-HSA-211859
ENSG00000183549	ACSM5	Biological oxidations	R-HSA-211859
ENSG00000183747	ACSM2A	Biological oxidations	R-HSA-211859
ENSG00000186104	CYP2R1	Biological oxidations	R-HSA-211859
ENSG00000186115	CYP4F2	Biological oxidations	R-HSA-211859
ENSG00000186204	CYP4F12	Biological oxidations	R-HSA-211859
ENSG00000186205	MARC1	Biological oxidations	R-HSA-211859
ENSG00000186350	RXRA	Biological oxidations	R-HSA-211859
ENSG00000186526	CYP4F8	Biological oxidations	R-HSA-211859
ENSG00000186529	CYP4F3	Biological oxidations	R-HSA-211859
ENSG00000187048	CYP4A11	Biological oxidations	R-HSA-211859
ENSG00000187553	CYP26C1	Biological oxidations	R-HSA-211859
ENSG00000187758	ADH1A	Biological oxidations	R-HSA-211859
ENSG00000189221	MAOA	Biological oxidations	R-HSA-211859
ENSG00000196344	ADH7	Biological oxidations	R-HSA-211859
ENSG00000196502	SULT1A1	Biological oxidations	R-HSA-211859
ENSG00000196616	ADH1B	Biological oxidations	R-HSA-211859
ENSG00000196620	UGT2B15	Biological oxidations	R-HSA-211859
ENSG00000197165	SULT1A2	Biological oxidations	R-HSA-211859
ENSG00000197408	CYP2B6	Biological oxidations	R-HSA-211859
ENSG00000197446	CYP2F1	Biological oxidations	R-HSA-211859
ENSG00000197448	GSTK1	Biological oxidations	R-HSA-211859
ENSG00000197888	UGT2B17	Biological oxidations	R-HSA-211859
ENSG00000197894	ADH5	Biological oxidations	R-HSA-211859
ENSG00000198075	SULT1C4	Biological oxidations	R-HSA-211859
ENSG00000198077	CYP2A7	Biological oxidations	R-HSA-211859
ENSG00000198099	ADH4	Biological oxidations	R-HSA-211859
ENSG00000198203	SULT1C2	Biological oxidations	R-HSA-211859
ENSG00000198682	PAPSS2	Biological oxidations	R-HSA-211859
ENSG00000198848	CES1	Biological oxidations	R-HSA-211859
ENSG00000203972	GLYATL3	Biological oxidations	R-HSA-211859
ENSG00000211454	AKR7L	Biological oxidations	R-HSA-211859
ENSG00000213366	GSTM2	Biological oxidations	R-HSA-211859
ENSG00000213759	UGT2B11	Biological oxidations	R-HSA-211859
ENSG00000214435	AS3MT	Biological oxidations	R-HSA-211859
ENSG00000215009	ACSM4	Biological oxidations	R-HSA-211859
ENSG00000231852	CYP21A2	Biological oxidations	R-HSA-211859
ENSG00000240224	UGT1A5	Biological oxidations	R-HSA-211859
ENSG00000241119	UGT1A9	Biological oxidations	R-HSA-211859
ENSG00000241635	UGT1A1	Biological oxidations	R-HSA-211859
ENSG00000242366	UGT1A8	Biological oxidations	R-HSA-211859
ENSG00000242515	UGT1A10	Biological oxidations	R-HSA-211859
ENSG00000243135	UGT1A3	Biological oxidations	R-HSA-211859
ENSG00000243955	GSTA1	Biological oxidations	R-HSA-211859
ENSG00000243989	ACY1	Biological oxidations	R-HSA-211859
ENSG00000244067	GSTA2	Biological oxidations	R-HSA-211859
ENSG00000244122	UGT1A7	Biological oxidations	R-HSA-211859
ENSG00000244474	UGT1A4	Biological oxidations	R-HSA-211859
ENSG00000248144	ADH1C	Biological oxidations	R-HSA-211859
ENSG00000255974	CYP2A6	Biological oxidations	R-HSA-211859
ENSG00000261052	SULT1A3	Biological oxidations	R-HSA-211859
ENSG00000267673	FDX2	Biological oxidations	R-HSA-211859

ENSG00000002587	HS3ST1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000004864	SLC25A13	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000008513	ST3GAL1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000010404	IDS	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000011465	DCN	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000013288	MAN2B2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000014641	MDH1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000015532	XYLT2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000023697	DERA	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000026508	CD44	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000027847	B4GALT7	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000030066	NUP160	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000033100	CHPF2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000038427	VCAN	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000044446	PHKA2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000047410	TPR	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000049860	HEXB	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000056998	GYG2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000058804	NDC1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000063660	GPC1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000064225	ST3GAL6	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000067057	PFKP	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000067177	PHKA1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000067225	PKM	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000068001	HYAL2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000068976	PYGM	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000069248	NUP133	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000070614	NDST1	Metabolism carbohydrates	of	R-HSA-71387

ENSG00000072062	PRKACA	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000072571	HMMR	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000074800	ENO1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000075188	NUP37	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000076716	GPC4	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000079739	PGM1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000084734	GCKR	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000085415	SEH1L	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000085662	AKR1B1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000086062	B4GALT1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000090020	SLC9A1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000093000	NUP50	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000093217	XYLB	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000094914	AAAS	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000095319	NUP188	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000100075	SLC25A1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000100504	PYGL	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000100889	PCK2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000100994	PYGB	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000101146	RAE1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000101911	PRPS2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000102144	PGK1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000102893	PHKB	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000102900	NUP93	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000103044	HAS3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000103489	XYLT1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000103888	CEMIP	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000104695	PPP2CB	Metabolism carbohydrates	of	R-HSA-71387

ENSG00000104774	MAN2B1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000104812	GYS1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000105220	GPI	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000105509	HAS1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000105568	PPP2R1A	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000105679	GAPDHS	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000106633	GCK	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000106809	OGN	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000108479	GALK1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000108515	ENO3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000108528	SLC25A11	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000108559	NUP88	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000108784	NAGLU	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000109107	ALDOC	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000109323	MANBA	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000109956	B3GAT1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000110080	ST3GAL4	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000110713	NUP98	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000111581	NUP107	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000111640	GAPDH	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000111669	TPI1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000111674	ENO2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000111713	GYS2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000111817	DSE	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000111962	UST	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000112309	B3GAT2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000112425	EPM2A	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000112640	PPP2R5D	Metabolism carbohydrates	of	R-HSA-71387

ENSG00000113273	ARSB	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000113552	GNPDA1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000113569	NUP155	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000113575	PPP2CA	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000114268	PFKFB4	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000114378	HYAL1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000114480	GBE1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000114646	CSPG5	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000114770	ABCC5	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000115840	SLC25A12	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000115884	SDC1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000117308	GALE	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000117394	SLC2A1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000117411	B4GALT2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000117448	AKR1A1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000118276	B4GALT6	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000119938	PPP1R3C	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000120053	GOT1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000120253	NUP43	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000121578	B4GALT4	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000122176	FMOD	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000122254	HS3ST2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000122863	CHST3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000123836	PFKFB2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000123989	CHPF	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000124145	SDC4	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000124253	PCK1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000124786	SLC35B3	Metabolism carbohydrates	of	R-HSA-71387

ENSG00000124789	NUP153	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000125166	GOT2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000125430	HS3ST3B1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000125450	NUP85	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000126091	ST3GAL3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000126883	NUP214	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000127083	OMD	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000127415	IDUA	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000130287	NCAN	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000130313	PGLS	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000130383	FUT5	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000130957	FBP2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000130958	SLC35D2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000131482	G6PC	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000131873	CHSY1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000132182	NUP210	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000132692	BCAN	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000133800	LYVE1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000134955	SLC37A2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000135677	GNS	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000135702	CHST5	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000136011	STAB2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000136213	CHST12	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000136243	NUPL2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000136720	HS6ST1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000136872	ALDOB	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000137713	PPP2R1B	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000138030	KHK	Metabolism carbohydrates	of	R-HSA-71387

ENSG00000138604	GLCE	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000138653	NDST4	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000138750	NUP54	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000138801	PAPSS1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000139329	LUM	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000139330	KERA	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000139496	NUP58	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000140263	SORD	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000140400	MAN2C1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000141012	GALNS	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000141349	G6PC3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000141959	PFKL	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000142657	PGD	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000142798	HSPG2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000142875	PRKACB	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000143627	PKLR	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000143947	RPS27A	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000145217	SLC26A1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000146701	MDH2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000147119	CHST7	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000147224	PRPS1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000147257	GPC3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000147408	CSGALNACT1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000149476	TKFC	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000149541	B3GAT3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000149925	ALDOA	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000150991	UBC	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000151348	EXT2	Metabolism carbohydrates	of	R-HSA-71387

ENSG00000152254	G6PC2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000152556	PFKM	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000153201	RANBP2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000153574	RPIA	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000153936	HS2ST1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000153976	HS3ST3A1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000154080	CHST9	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000155561	NUP205	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000155850	SLC26A2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000156413	FUT6	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000156515	HK1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000156873	PHKG2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000156966	B3GNT7	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000157020	SEC13	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000157350	ST3GAL2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000157593	SLC35B2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000157766	ACAN	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000158470	B4GALT5	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000158571	PFKFB1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000158850	B4GALT3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000159322	ADPGK	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000159399	HK2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000160190	SLC37A1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000160211	G6PD	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000160408	ST6GALNAC6	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000160883	HK3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000162040	HS3ST6	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000162512	SDC3	Metabolism carbohydrates	of	R-HSA-71387

ENSG00000162630	B3GALT2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000162688	AGL	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000163002	NUP35	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000163281	GNPDA2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000163521	GLB1L	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000163754	GYG1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000163931	TKT	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000164100	NDST3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000164776	PHKG1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000165059	PRKACG	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000165092	ALDH1A1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000165102	HGSNAT	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000165140	FBP1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000165434	PGM2L1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000165475	CRYL1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000166507	NDST2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000167080	B4GALNT2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000167531	LALBA	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000168237	GLYCTK	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000169105	CHST14	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000169299	PGM2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000169439	SDC2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000169738	DCXR	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000169764	UGP2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000169826	CSGALNACT2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000169919	GUSB	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000170266	GLB1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000170315	UBB	Metabolism carbohydrates	of	R-HSA-71387

ENSG00000170340	B3GNT2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000170525	PFKFB3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000170950	PGK2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000170961	HAS2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000171004	HS6ST2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000171124	FUT3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000171174	RBKS	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000171298	GAA	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000171310	CHST11	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000171314	PGAM1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000171451	DSEL	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000172318	B3GALT1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000172331	BPGM	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000172461	FUT9	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000172728	FUT10	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000172987	HPSE2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000173083	HPSE	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000173546	CSPG4	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000173599	PC	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000174684	B4GAT1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000174951	FUT1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000175040	CHST2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000175264	CHST1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000176022	B3GALT6	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000176383	B3GNT4	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000176920	FUT2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000177156	TALDO1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000179399	GPC5	Metabolism carbohydrates	of	R-HSA-71387

ENSG00000179913	B3GNT3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000180549	FUT7	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000180767	CHST13	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000181523	SGSH	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000182022	CHST15	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000182197	EXT1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000182492	BGN	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000182601	HS3ST4	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000183048	SLC25A10	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000183098	GPC6	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000183196	CHST6	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000183778	B3GALT5	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000184207	PGP	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000185352	HS6ST3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000186792	HYAL3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000187010	RHD	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000187446	CHP1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000187566	NHLRC1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000188157	AGRN	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000188672	RHCE	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000188783	PRELP	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000196313	POM121	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000196371	FUT4	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000196968	FUT11	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000197417	SHPK	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000197713	RPE	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000198108	CHSY3	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000198668	CALM1	Metabolism carbohydrates	of	R-HSA-71387

ENSG00000198682	PAPSS2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000213024	NUP62	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000213420	GPC2	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000213614	HEXA	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000213930	GALT	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000221983	UBA52	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000229937	PRPS1L1	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000235863	B3GALT4	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000249853	HS3ST5	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000272391	POM121C	Metabolism carbohydrates	of	R-HSA-71387
ENSG00000004779	NDUFAB1	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000005187	ACSM3	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000072778	ACADVL	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000084754	HADHA	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000097021	ACOT7	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000100294	MCAT	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000104325	DECR1	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000111271	ACAD10	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000112304	ACOT13	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000114054	PCCB	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000115361	ACADL	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000116353	MECR	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000117054	ACADM	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000119673	ACOT2	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000122971	ACADS	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000123130	ACOT9	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000124370	MCEE	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289
ENSG00000127884	ECHS1	Mitochondrial Acid Beta-Oxidation	Fatty	R-HSA-77289

ENSG00000138029	HADHB	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000138796	HADH	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000141179	PCTP	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000146085	MUT	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000151611	MMAA	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000155368	DBI	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000159445	THEM4	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000162390	ACOT11	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000167107	ACSF2	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000167315	ACAA2	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000167969	ECI1	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000172497	ACOT12	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000173124	ACSM6	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000175198	PCCA	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000176244	ACBD7	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000184227	ACOT1	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000196407	THEM5	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000230124	ACBD6	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000240303	ACAD11	Mitochondrial Fatty Acid Beta-Oxidation	R-HSA-77289
ENSG00000056998	GYG2	Glycogen synthesis	R-HSA-3322077
ENSG00000079739	PGM1	Glycogen synthesis	R-HSA-3322077
ENSG00000104812	GYS1	Glycogen synthesis	R-HSA-3322077
ENSG00000111713	GYS2	Glycogen synthesis	R-HSA-3322077
ENSG00000112425	EPM2A	Glycogen synthesis	R-HSA-3322077
ENSG00000114480	GBE1	Glycogen synthesis	R-HSA-3322077
ENSG00000119938	PPP1R3C	Glycogen synthesis	R-HSA-3322077
ENSG00000143947	RPS27A	Glycogen synthesis	R-HSA-3322077
ENSG00000150991	UBC	Glycogen synthesis	R-HSA-3322077
ENSG00000163754	GYG1	Glycogen synthesis	R-HSA-3322077
ENSG00000165434	PGM2L1	Glycogen synthesis	R-HSA-3322077
ENSG00000169299	PGM2	Glycogen synthesis	R-HSA-3322077
ENSG00000169764	UGP2	Glycogen synthesis	R-HSA-3322077
ENSG00000170315	UBB	Glycogen synthesis	R-HSA-3322077
ENSG00000187566	NHLRC1	Glycogen synthesis	R-HSA-3322077
ENSG00000221983	UBA52	Glycogen synthesis	R-HSA-3322077
ENSG00000044446	PHKA2	Glycogen metabolism	R-HSA-8982491
ENSG00000056998	GYG2	Glycogen metabolism	R-HSA-8982491

ENSG00000067177	PHKA1	Glycogen metabolism	R-HSA-8982491
ENSG00000068976	PYGM	Glycogen metabolism	R-HSA-8982491
ENSG00000079739	PGM1	Glycogen metabolism	R-HSA-8982491
ENSG00000100504	PYGL	Glycogen metabolism	R-HSA-8982491
ENSG00000100994	PYGB	Glycogen metabolism	R-HSA-8982491
ENSG00000102893	PHKB	Glycogen metabolism	R-HSA-8982491
ENSG00000104812	GYS1	Glycogen metabolism	R-HSA-8982491
ENSG00000111713	GYS2	Glycogen metabolism	R-HSA-8982491
ENSG00000112425	EPM2A	Glycogen metabolism	R-HSA-8982491
ENSG00000114480	GBE1	Glycogen metabolism	R-HSA-8982491
ENSG00000119938	PPP1R3C	Glycogen metabolism	R-HSA-8982491
ENSG00000143947	RPS27A	Glycogen metabolism	R-HSA-8982491
ENSG00000150991	UBC	Glycogen metabolism	R-HSA-8982491
ENSG00000156873	PHKG2	Glycogen metabolism	R-HSA-8982491
ENSG00000162688	AGL	Glycogen metabolism	R-HSA-8982491
ENSG00000163754	GYG1	Glycogen metabolism	R-HSA-8982491
ENSG00000164776	PHKG1	Glycogen metabolism	R-HSA-8982491
ENSG00000165434	PGM2L1	Glycogen metabolism	R-HSA-8982491
ENSG00000169299	PGM2	Glycogen metabolism	R-HSA-8982491
ENSG00000169764	UGP2	Glycogen metabolism	R-HSA-8982491
ENSG00000170315	UBB	Glycogen metabolism	R-HSA-8982491
ENSG00000171298	GAA	Glycogen metabolism	R-HSA-8982491
ENSG00000187566	NHLRC1	Glycogen metabolism	R-HSA-8982491
ENSG00000198668	CALM1	Glycogen metabolism	R-HSA-8982491
ENSG00000221983	UBA52	Glycogen metabolism	R-HSA-8982491
ENSG00000044446	PHKA2	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000056998	GYG2	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000067177	PHKA1	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000068976	PYGM	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000100504	PYGL	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000100994	PYGB	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000102893	PHKB	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000156873	PHKG2	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000162688	AGL	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000163754	GYG1	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000164776	PHKG1	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000165434	PGM2L1	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000169299	PGM2	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000171298	GAA	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000198668	CALM1	Glycogen breakdown (glycogenolysis)	R-HSA-70221
ENSG00000004864	SLC25A13	Glucose metabolism	R-HSA-70326

ENSG00000014641	MDH1	Glucose metabolism	R-HSA-70326
ENSG00000030066	NUP160	Glucose metabolism	R-HSA-70326
ENSG00000047410	TPR	Glucose metabolism	R-HSA-70326
ENSG00000058804	NDC1	Glucose metabolism	R-HSA-70326
ENSG00000067057	PFKP	Glucose metabolism	R-HSA-70326
ENSG00000067225	PKM	Glucose metabolism	R-HSA-70326
ENSG00000069248	NUP133	Glucose metabolism	R-HSA-70326
ENSG00000072062	PRKACA	Glucose metabolism	R-HSA-70326
ENSG00000074800	ENO1	Glucose metabolism	R-HSA-70326
ENSG00000075188	NUP37	Glucose metabolism	R-HSA-70326
ENSG00000084734	GCKR	Glucose metabolism	R-HSA-70326
ENSG00000085415	SEH1L	Glucose metabolism	R-HSA-70326
ENSG00000093000	NUP50	Glucose metabolism	R-HSA-70326
ENSG00000094914	AAAS	Glucose metabolism	R-HSA-70326
ENSG00000095319	NUP188	Glucose metabolism	R-HSA-70326
ENSG00000100075	SLC25A1	Glucose metabolism	R-HSA-70326
ENSG00000100889	PCK2	Glucose metabolism	R-HSA-70326
ENSG00000101146	RAE1	Glucose metabolism	R-HSA-70326
ENSG00000102144	PGK1	Glucose metabolism	R-HSA-70326
ENSG00000102900	NUP93	Glucose metabolism	R-HSA-70326
ENSG00000104695	PPP2CB	Glucose metabolism	R-HSA-70326
ENSG00000105220	GPI	Glucose metabolism	R-HSA-70326
ENSG00000105568	PPP2R1A	Glucose metabolism	R-HSA-70326
ENSG00000105679	GAPDHS	Glucose metabolism	R-HSA-70326
ENSG00000106633	GCK	Glucose metabolism	R-HSA-70326
ENSG00000108515	ENO3	Glucose metabolism	R-HSA-70326
ENSG00000108528	SLC25A11	Glucose metabolism	R-HSA-70326
ENSG00000108559	NUP88	Glucose metabolism	R-HSA-70326
ENSG00000109107	ALDOC	Glucose metabolism	R-HSA-70326
ENSG00000110713	NUP98	Glucose metabolism	R-HSA-70326
ENSG00000111581	NUP107	Glucose metabolism	R-HSA-70326
ENSG00000111640	GAPDH	Glucose metabolism	R-HSA-70326
ENSG00000111669	TPI1	Glucose metabolism	R-HSA-70326
ENSG00000111674	ENO2	Glucose metabolism	R-HSA-70326
ENSG00000112640	PPP2R5D	Glucose metabolism	R-HSA-70326
ENSG00000113552	GNPDA1	Glucose metabolism	R-HSA-70326
ENSG00000113569	NUP155	Glucose metabolism	R-HSA-70326
ENSG00000113575	PPP2CA	Glucose metabolism	R-HSA-70326
ENSG00000114268	PFKFB4	Glucose metabolism	R-HSA-70326
ENSG00000115840	SLC25A12	Glucose metabolism	R-HSA-70326
ENSG00000120053	GOT1	Glucose metabolism	R-HSA-70326
ENSG00000120253	NUP43	Glucose metabolism	R-HSA-70326
ENSG00000123836	PFKFB2	Glucose metabolism	R-HSA-70326
ENSG00000124253	PCK1	Glucose metabolism	R-HSA-70326
ENSG00000124789	NUP153	Glucose metabolism	R-HSA-70326
ENSG00000125166	GOT2	Glucose metabolism	R-HSA-70326
ENSG00000125450	NUP85	Glucose metabolism	R-HSA-70326
ENSG00000126883	NUP214	Glucose metabolism	R-HSA-70326
ENSG00000130957	FBP2	Glucose metabolism	R-HSA-70326
ENSG00000131482	G6PC	Glucose metabolism	R-HSA-70326
ENSG00000132182	NUP210	Glucose metabolism	R-HSA-70326
ENSG00000134955	SLC37A2	Glucose metabolism	R-HSA-70326
ENSG00000136243	NUPL2	Glucose metabolism	R-HSA-70326
ENSG00000136872	ALDOB	Glucose metabolism	R-HSA-70326
ENSG00000137713	PPP2R1B	Glucose metabolism	R-HSA-70326

ENSG00000138750	NUP54	Glucose metabolism	R-HSA-70326
ENSG00000139496	NUP58	Glucose metabolism	R-HSA-70326
ENSG00000141349	G6PC3	Glucose metabolism	R-HSA-70326
ENSG00000141959	PFKL	Glucose metabolism	R-HSA-70326
ENSG00000142875	PRKACB	Glucose metabolism	R-HSA-70326
ENSG00000143627	PKLR	Glucose metabolism	R-HSA-70326
ENSG00000146701	MDH2	Glucose metabolism	R-HSA-70326
ENSG00000149925	ALDOA	Glucose metabolism	R-HSA-70326
ENSG00000152254	G6PC2	Glucose metabolism	R-HSA-70326
ENSG00000152556	PFKM	Glucose metabolism	R-HSA-70326
ENSG00000153201	RANBP2	Glucose metabolism	R-HSA-70326
ENSG00000155561	NUP205	Glucose metabolism	R-HSA-70326
ENSG00000156515	HK1	Glucose metabolism	R-HSA-70326
ENSG00000157020	SEC13	Glucose metabolism	R-HSA-70326
ENSG00000158571	PFKFB1	Glucose metabolism	R-HSA-70326
ENSG00000159322	ADPGK	Glucose metabolism	R-HSA-70326
ENSG00000159399	HK2	Glucose metabolism	R-HSA-70326
ENSG00000160190	SLC37A1	Glucose metabolism	R-HSA-70326
ENSG00000160883	HK3	Glucose metabolism	R-HSA-70326
ENSG00000163002	NUP35	Glucose metabolism	R-HSA-70326
ENSG00000163281	GNPDA2	Glucose metabolism	R-HSA-70326
ENSG00000165059	PRKACG	Glucose metabolism	R-HSA-70326
ENSG00000165140	FBP1	Glucose metabolism	R-HSA-70326
ENSG00000165434	PGM2L1	Glucose metabolism	R-HSA-70326
ENSG00000170525	PFKFB3	Glucose metabolism	R-HSA-70326
ENSG00000170950	PGK2	Glucose metabolism	R-HSA-70326
ENSG00000171314	PGAM1	Glucose metabolism	R-HSA-70326
ENSG00000172331	BPGM	Glucose metabolism	R-HSA-70326
ENSG00000173599	PC	Glucose metabolism	R-HSA-70326
ENSG00000183048	SLC25A10	Glucose metabolism	R-HSA-70326
ENSG00000184207	PGP	Glucose metabolism	R-HSA-70326
ENSG00000196313	POM121	Glucose metabolism	R-HSA-70326
ENSG00000213024	NUP62	Glucose metabolism	R-HSA-70326
ENSG00000272391	POM121C	Glucose metabolism	R-HSA-70326
ENSG00000030066	NUP160	Glycolysis	R-HSA-70171
ENSG00000047410	TPR	Glycolysis	R-HSA-70171
ENSG00000058804	NDC1	Glycolysis	R-HSA-70171
ENSG00000067057	PFKP	Glycolysis	R-HSA-70171
ENSG00000067225	PKM	Glycolysis	R-HSA-70171
ENSG00000069248	NUP133	Glycolysis	R-HSA-70171
ENSG00000072062	PRKACA	Glycolysis	R-HSA-70171
ENSG00000074800	ENO1	Glycolysis	R-HSA-70171
ENSG00000075188	NUP37	Glycolysis	R-HSA-70171
ENSG00000084734	GCKR	Glycolysis	R-HSA-70171
ENSG00000085415	SEH1L	Glycolysis	R-HSA-70171
ENSG00000093000	NUP50	Glycolysis	R-HSA-70171
ENSG00000094914	AAAS	Glycolysis	R-HSA-70171
ENSG00000095319	NUP188	Glycolysis	R-HSA-70171
ENSG00000101146	RAE1	Glycolysis	R-HSA-70171
ENSG00000102144	PGK1	Glycolysis	R-HSA-70171
ENSG00000102900	NUP93	Glycolysis	R-HSA-70171
ENSG00000104695	PPP2CB	Glycolysis	R-HSA-70171
ENSG00000105220	GPI	Glycolysis	R-HSA-70171
ENSG00000105568	PPP2R1A	Glycolysis	R-HSA-70171
ENSG00000105679	GAPDHS	Glycolysis	R-HSA-70171

ENSG00000106633	GCK	Glycolysis	R-HSA-70171
ENSG00000108515	ENO3	Glycolysis	R-HSA-70171
ENSG00000108559	NUP88	Glycolysis	R-HSA-70171
ENSG00000109107	ALDOC	Glycolysis	R-HSA-70171
ENSG00000110713	NUP98	Glycolysis	R-HSA-70171
ENSG00000111581	NUP107	Glycolysis	R-HSA-70171
ENSG00000111640	GAPDH	Glycolysis	R-HSA-70171
ENSG00000111669	TPI1	Glycolysis	R-HSA-70171
ENSG00000111674	ENO2	Glycolysis	R-HSA-70171
ENSG00000112640	PPP2R5D	Glycolysis	R-HSA-70171
ENSG00000113552	GNPDA1	Glycolysis	R-HSA-70171
ENSG00000113569	NUP155	Glycolysis	R-HSA-70171
ENSG00000113575	PPP2CA	Glycolysis	R-HSA-70171
ENSG00000114268	PFKFB4	Glycolysis	R-HSA-70171
ENSG00000120253	NUP43	Glycolysis	R-HSA-70171
ENSG00000123836	PFKFB2	Glycolysis	R-HSA-70171
ENSG00000124789	NUP153	Glycolysis	R-HSA-70171
ENSG00000125450	NUP85	Glycolysis	R-HSA-70171
ENSG00000126883	NUP214	Glycolysis	R-HSA-70171
ENSG00000132182	NUP210	Glycolysis	R-HSA-70171
ENSG00000136243	NUPL2	Glycolysis	R-HSA-70171
ENSG00000136872	ALDOB	Glycolysis	R-HSA-70171
ENSG00000137713	PPP2R1B	Glycolysis	R-HSA-70171
ENSG00000138750	NUP54	Glycolysis	R-HSA-70171
ENSG00000139496	NUP58	Glycolysis	R-HSA-70171
ENSG00000141959	PFKL	Glycolysis	R-HSA-70171
ENSG00000142875	PRKACB	Glycolysis	R-HSA-70171
ENSG00000143627	PKLR	Glycolysis	R-HSA-70171
ENSG00000149925	ALDOA	Glycolysis	R-HSA-70171
ENSG00000152556	PFKM	Glycolysis	R-HSA-70171
ENSG00000153201	RANBP2	Glycolysis	R-HSA-70171
ENSG00000155561	NUP205	Glycolysis	R-HSA-70171
ENSG00000156515	HK1	Glycolysis	R-HSA-70171
ENSG00000157020	SEC13	Glycolysis	R-HSA-70171
ENSG00000158571	PFKFB1	Glycolysis	R-HSA-70171
ENSG00000159322	ADPGK	Glycolysis	R-HSA-70171
ENSG00000159399	HK2	Glycolysis	R-HSA-70171
ENSG00000160883	HK3	Glycolysis	R-HSA-70171
ENSG00000163002	NUP35	Glycolysis	R-HSA-70171
ENSG00000163281	GNPDA2	Glycolysis	R-HSA-70171
ENSG00000165059	PRKACG	Glycolysis	R-HSA-70171
ENSG00000165434	PGM2L1	Glycolysis	R-HSA-70171
ENSG00000170525	PFKFB3	Glycolysis	R-HSA-70171
ENSG00000170950	PGK2	Glycolysis	R-HSA-70171
ENSG00000171314	PGAM1	Glycolysis	R-HSA-70171
ENSG00000172331	BPGM	Glycolysis	R-HSA-70171
ENSG00000184207	PGP	Glycolysis	R-HSA-70171
ENSG00000196313	POM121	Glycolysis	R-HSA-70171
ENSG00000213024	NUP62	Glycolysis	R-HSA-70171
ENSG00000272391	POM121C	Glycolysis	R-HSA-70171
ENSG00000004799	PDK4	Pyruvate metabolism	R-HSA-70268
ENSG00000005882	PDK2	Pyruvate metabolism	R-HSA-70268
ENSG00000060762	MPC1	Pyruvate metabolism	R-HSA-70268
ENSG00000063854	HAGH	Pyruvate metabolism	R-HSA-70268
ENSG00000065833	ME1	Pyruvate metabolism	R-HSA-70268

ENSG00000067992	PDK3	Pyruvate metabolism	R-HSA-70268
ENSG00000090857	PDPR	Pyruvate metabolism	R-HSA-70268
ENSG00000091140	DLD	Pyruvate metabolism	R-HSA-70268
ENSG00000100156	SLC16A8	Pyruvate metabolism	R-HSA-70268
ENSG00000100577	GSTZ1	Pyruvate metabolism	R-HSA-70268
ENSG00000110435	PDHX	Pyruvate metabolism	R-HSA-70268
ENSG00000111716	LDHB	Pyruvate metabolism	R-HSA-70268
ENSG00000112033	PPARD	Pyruvate metabolism	R-HSA-70268
ENSG00000124767	GLO1	Pyruvate metabolism	R-HSA-70268
ENSG00000131828	PDHA1	Pyruvate metabolism	R-HSA-70268
ENSG00000134333	LDHA	Pyruvate metabolism	R-HSA-70268
ENSG00000141526	SLC16A3	Pyruvate metabolism	R-HSA-70268
ENSG00000143158	MPC2	Pyruvate metabolism	R-HSA-70268
ENSG00000150768	DLAT	Pyruvate metabolism	R-HSA-70268
ENSG00000152256	PDK1	Pyruvate metabolism	R-HSA-70268
ENSG00000155380	SLC16A1	Pyruvate metabolism	R-HSA-70268
ENSG00000163114	PDHA2	Pyruvate metabolism	R-HSA-70268
ENSG00000164951	PDP1	Pyruvate metabolism	R-HSA-70268
ENSG00000166796	LDHC	Pyruvate metabolism	R-HSA-70268
ENSG00000166800	LDHAL6A	Pyruvate metabolism	R-HSA-70268
ENSG00000168291	PDHB	Pyruvate metabolism	R-HSA-70268
ENSG00000171989	LDHAL6B	Pyruvate metabolism	R-HSA-70268
ENSG00000172270	BSG	Pyruvate metabolism	R-HSA-70268
ENSG00000172840	PDP2	Pyruvate metabolism	R-HSA-70268
ENSG00000186350	RXRA	Pyruvate metabolism	R-HSA-70268
ENSG00000213585	VDAC1	Pyruvate metabolism	R-HSA-70268
ENSG00000004799	PDK4	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000005882	PDK2	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000060762	MPC1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000062485	CS	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000063854	HAGH	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000065833	ME1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000067829	IDH3G	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000067992	PDK3	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000073578	SDHA	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000082212	ME2	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406

ENSG00000087299	L2HGDH	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000090857	PDPR	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000091140	DLD	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000091483	FH	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000100156	SLC16A8	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000100412	ACO2	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000100577	GSTZ1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000101365	IDH3B	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000105953	OGDH	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000110435	PDHX	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000111716	LDHB	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000112033	PPARD	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000112992	NNT	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000117118	SDHB	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000119689	DLST	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000124767	GLO1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000131828	PDHA1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000134333	LDHA	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406

ENSG00000136143	SUCLA2	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000141526	SLC16A3	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000143158	MPC2	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000143252	SDHC	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000146701	MDH2	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000147576	ADHFE1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000150768	DLAT	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000151376	ME3	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000152256	PDK1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000155380	SLC16A1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000163114	PDHA2	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000163541	SUCLG1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000164951	PDP1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000166411	IDH3A	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000166796	LDHC	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000166800	LDHAL6A	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000168291	PDHB	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000171989	LDHAL6B	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406

ENSG00000172270	BSG	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000172340	SUCLG2	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000172840	PDP2	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000180185	FAHD1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000180902	D2HGDH	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000182054	IDH2	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000186350	RXRA	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000204370	SDHD	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000213585	VDAC1	Pyruvate metabolism and Citric Acid (TCA) cycle	R-HSA-71406
ENSG00000062485	CS	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000067829	IDH3G	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000073578	SDHA	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000082212	ME2	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000091140	DLD	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000091483	FH	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000100412	ACO2	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000101365	IDH3B	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000105953	OGDH	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000112992	NNT	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000117118	SDHB	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000119689	DLST	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000136143	SUCLA2	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000143252	SDHC	Citric acid cycle (TCA cycle)	R-HSA-71403

ENSG00000146701	MDH2	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000151376	ME3	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000163541	SUCLG1	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000166411	IDH3A	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000172340	SUCLG2	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000180185	FAHD1	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000182054	IDH2	Citric acid cycle (TCA cycle)	R-HSA-71403
ENSG00000204370	SDHD	Citric acid cycle (TCA cycle)	R-HSA-71403