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	A	B	C
1	**Functional Groups/Pathways**	**p-value**	**Overlapping Entities**
2	**Angiogenesis**		
3	angiogenesis	0.0083	EGFL7;SEMA4A;TGFBI;NOTCH1;NOS3;EPHB2;RBPJ;EPHB3;IL15;HMOX1;EPHA2;ADRA2B;ACVRL1;SOX18;FLT4;FGF18;GJA5;EFNA1
4			
5	**Apoptosis**		
6	positive regulation of apoptotic process	0.0099	GAL;ALDH1A3;NOTCH1;FGFR3;NOS3;PHLDA3;MAP2K6;WNT11;ARHGAP4;EFHC1;SFRP4;AGER;SAP18;INPP5D;NET1;S100B;APH1A;IFIT2;ARHGEF9;FAM72A;TSPO;IGFBP3;SFRP1;MELK
7			
8	**Biosynthesis**		
9	steroid biosynthetic process	4.58E-07	PRLR;MVD;SCARB1;HSD17B1;CYP11A1;FDX1;STAR;CYP19A1;HSD17B3;DHCR7;CYP17A1;FDXR;TSPO;STARD5
10	testosterone biosynthetic process	3.12E-05	HSD17B1;CYP11A1;STAR;HSD17B3
11	regulation of steroid biosynthetic process	5.37E-05	DHH;STAR;LHCGR;TSPO;NR5A1
12	cellular amino acid biosynthetic process	5.54E-05	GPT;CTH;PYCR1;PHGDH;MRI1;GOT1;PSAT1;CBS
13	hydrogen sulfide biosynthetic process	5.75E-05	CTH;MPST;CBS
14	estrogen biosynthetic process	0.00085	HSD17B1;CYP11A1;STAR;CYP19A1
15	retinoic acid biosynthetic process	0.0017	ALDH1A3;RBP1;CRABP2
16			
17	**Catabolic**		
18	GTP catabolic process	0.0024	TUBD1;ATL1;RAB6B;GNA14;TUBG2;RAC3;RASL12;RAP2B;DNM1;ARF6;RAB3A;RASD1;TUBA4A;GNB5;MFN2;TBCC;MX2;TUBB3
19			
20	**Cell Growth**		
21			
22	**Cytoskeleton**		
23	cell adhesion	0.00016	PCDHB5;CDHR1;MUC4;PCDH10;SCARB1;TGFBI;CADM2;MSLNL;TMEM8A;EMILIN1;CADM4;CELSR2;CDH8;PCDHB11;TENM2;ACHE;ATP1B1;ATP1B2;LAMC3;ACAN;EPHA2;LY6D;CD99L2;CDH24;HAPLN1;ARF6;KITLG;CDH18;CDH1;BCAM;PLXNC1;CLDN11;TROAP;LAMC2;PRKCE;F11R;SCN1B;SCARF1;CNTN1;PCDH8;ITGA9;CNTNAP1;NINJ1;CLSTN3;AMIGO2

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	A	B	C
24	cell-cell junction organization	0.00117	XIRP2;CADM2;CDH8;OCLN;CDH24;CDH18;CDH1;PARD6A;F11R
25	axon guidance	0.0018	NTN3;DRGX;MATN2;SEMA4A;SLIT3;TENM2;EPHB2;EPHB3;SEMA7A;SEMA3F;GFRA1;ABLIM3;B3GNT1;UNC5D;ABLIM2;SCN8A;PLXNC1;SCN1B;EFNB3;CNTN1;ITGA9;CNTNAP1;SPTBN5;CACNA1D;TUBB3
26	cell junction assembly	0.0023	CADM2;CDH8;KRT14;CDH24;CDH18;CDH1;PARD6A;LAMC2;F11R
27	regulation of secretion	0.0043	TMEM184A;POFUT2
28			
29	**Development**		
30	cell differentiation	0.00011	TUBD1;RORC;DNER;TP63;EGFL7;TBATA;FGF22;SEMA4A;INHBA;SLIT3;NANOS3;NOTCH1;PRKCH;FGFR3;CEBPA;MDFI;TSSK6;PSMB8;SH3PXD2B;INHA;WNT11;NLRP14;SEMA7A;IHH;PAPPA;NAV1;SFRP4;TSSK3;EPHA2;SPATA18;PIWIL2;OSGIN1;ARF6;CDC20;SPATA25;CLGN;TRIP13;INHBB;KIT;DHCR7;F11R;CALR3;GLDN;CBFA2T3;NOTCH3;EFNB3;GPM6B;NR5A1;ADCYAP1R1;JAG2;CREB3L4;SFRP1
31	multicellular organismal development	0.000441	TUBD1;RORC;DNER;ENC1;TP63;DHH;SPDYA;BST2;NANOS3;NOTCH1;CHURC1;IGF2;MDFI;TSSK6;EPHB2;EPHB3;WNT11;SEMA3F;IHH;SFRP4;MST1R;EPHA2;ID2;HMGB3;CLGN;PLXNC1;WNT6;SPRY3;GLDN;KIF26B;NOTCH3;ESRRG;TULP3;EMX2;ANGPTL2;ADCYAP1R1;HSPA2;CREB3L4;CHRD;GPX4;SFRP1;H2AFZ;TBATA;EGFL7;GAPDH;DRGX;SEMA4A;SLIT3;CELSR2;EBF3;NLRP14;SEMA7A;NAV1;TSSK3;SPATA18;PIWIL2;OSGIN1;NFE2;UNC5D;SMPD3;HOXD3;PLAC1;LMO2;TMEM107;EFNB3;MFN2;JAG2;TMEM88
32	cell maturation	0.0018	CEBPA;SOX8;IHH;IL15;ID2;SOX18;POU2F2
33	positive regulation of synapse assembly	0.0028	LRRC4B;CBLN1;EPHB2;CBLN2;EPHB3
34	female gonad development	0.0046	LHX8;FANCA;LHCGR;NR5A1;SFRP1
35	ovarian follicle development	0.008163	INHBA;INHA;ADCYAP1;KITLG;INHBB;KIT;LHCGR
36			
37	**DNA repair**		
38	response to ionizing radiation	0.0014	CYP2R1;CYP11A1;KRT14;STAR;CYP19A1;CYP17A1;RAD54L;NHEJ1
39			
40	**Metabolic**		

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	A	B	C
41	small molecule metabolic process	1.02E-11	GPT;MTMR7;COX6A1;ELOVL7;CTH;SLC2A3;PRODH;PYCR1;IDH3G;HPRT1;ETNK2;SLC25A1;PHGDH;CYP2R1;CHST1;NOS3;ALAS1;G0S2;FMOD;GPD1;TPH1;B3GAT2;HMOX1;ACAN;SPHK1;B3GNT1;SLC22A3;PLA2G1B;STAR;SLC2A1;CHST7;CYP19A1;INPP5D;SLC25A21;NPAS2;ACP5;GSTA2;BCKDHA;SLC19A1;DHCR7;CYP17A1;PSMB3;PSAT1;ALOX5AP;SLC26A2;FDXR;STARD5;FADS2;CACNA1A;PTGDS;ADCY7;GPX4;SLC25A10;GNS;HS6ST2;GAPDH;MGAM;NDUFA7;MVD;SCARB1;PRELP;LIPE;EPHX2;GSR;DEGS2;ALDH2;CUBN;MRI1;HSD17B1;PSMB8;NDUFS7;PSMB9;CYP11A1;BTD;FDX1;GAMT;BLVRB;SLC16A3;ISYNA1;KCNS3;TST;ACHE;CERK;MMACHC;GOT1;NUDT5;GSTT1;PDXK;HSD17B3;SLC27A1;GLA;UQCR10;NAT1;KCNG2;PRKAR2B;AMPD1;SLC44A2;SMPD3;B3GNT7;MGST2;NAGLU;GSTA1;HADH;CACNA1D;GDA;CBS
42	oxidation-reduction process	2.22E-07	VKORC1;GAPDH;HSD11B2;NDUFA7;DHRS11;PRODH;SOD3;PYCR1;ALDH3B1;IDH3G;ALDH1A3;GSR;DEGS2;ALDH2;ALDH1L1;PHGDH;CYP2R1;NOS3;HSD17B1;NDUFS7;COX4I2;CYP11A1;DCXR;SEPW1;FDX1;GPD1;BLVRB;TPH1;ASPHD2;OGFOD2;PYROXD2;HMOX1;GSTT1;CYBB;P4HTM;GPX3;CYP19A1;RTN4IP1;HSD17B3;UQCR10;DHRS1;ALKBH6;DUOX2;BCKDHA;LOXL3;BCO2;MSRA;DHCR7;CYP17A1;RDH5;FDXR;FADS6;MGST2;FADS2;HADH;SORD;MECR;HAO2;GPX4
43	metabolic process	1.34E-05	GNS;PDXP;HSD11B2;MGAM;TNFAIP3;DHRS11;CHIT1;SCLY;LIPE;ALDH3B1;ALDH1A3;EPHX2;PM20D1;NDST3;ALDH2;ALDH1L1;PHGDH;RAG1;ALAS1;HSD17B1;DCXR;TPH1;ACAA2;CERK;ECHDC3;SPHK1;ACSM5;HSD17B3;SLC27A1;GLA;NAT1;NAGA;DHRS1;BCKDHA;ISOC1;DNPH1;PSAT1;RDH5;NAGLU;GSTA1;ACSBG1;OGG1
44	steroid metabolic process	3.16E-05	MVD;LIPE;CYP2R1;CUBN;HSD17B1;CYP11A1;FDX1;STAR;CYP19A1;HSD17B3;DHCR7;CYP17A1;FDXR;TSPO;STARD5;UGT1A8
45	carbohydrate metabolic process	4.93E-05	SLC25A10;GNS;HS6ST2;GAPDH;MGAM;SLC2A3;CHIT1;PRELP;IDH3G;IGF2;ALDH2;SLC25A1;CHST1;ABO;FMOD;DCXR;GPD1;SLC5A2;B3GAT2;GOT1;ACAN;B3GNT1;SLC2A1;CHST7;GLA;NAGA;MGAT4A;FUT4;DPM3;B3GNT7;POFUT2;SLC26A2;NAGLU;CHST8
46	cellular nitrogen compound metabolic process	0.0003	GPT;SLC25A10;CTH;PRODH;PYCR1;PHGDH;MRI1;PSMB8;PSMB9;GAMT;TPH1;TST;GOT1;SLC25A21;BCKDHA;PSMB3;PSAT1;CBS
47	superoxide metabolic process	0.001	SOD3;SH3PXD2B;CYBB;PREX1;CBS

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	A	B	C
48	cellular protein metabolic process	0.0019	VKORC1;DOLK;RPLP1;RPS27;MUC4;GALNT6;RPL8;RPS29;CGA;IGF2;RPL10A;TIMM8B;DOLPP1;RPL36;PAPPA;MAN1C1;SPHK1;TIMM13;RPS16;PIGC;RPL39;MGAT4A;DPM3;B3GNT7;TUBA4A;RPLP0;RPL38;TBCC;HERPUD1;RPS2;TIMM17B;IGFBP3;TUBB3;PLAUR
49	cellular amino acid metabolic process	0.00293	SCLY;SLC7A6;GOT1;BPHL;GCAT;SLC7A7;SLC7A4
50	inflammatory response	0.0045	PRKCZ;NFKBID;TNFAIP3;TBXA2R;GAL;EPHX2;CHST1;SEMA7A;SCUBE1;IL15;TLR8;AGER;SPHK1;CYBB;C4A;PTX3;LIAS;NFAM1;CCL5;KIT;CCRL2;F11R;DDT;TNFRSF4;IL17RE
51	lipid metabolic process	0.0059	THEM5;ELOVL7;MVD;LIPE;ALDH3B1;EPHX2;ETNK2;DEGS2;CUBN;HSD17B1;LIPG;CYP11A1;FDX1;ISYNA1;ACAA2;NR2F2;PLA2G1B;ACSM5;HSD17B3;SLC27A1;THEM4;SMPD3;DHCR7;NAPEPLD;FDXR;FADS6;FADS2;HADH;ACSBG1;PTGDS;MECR
52	gluconeogenesis	0.009	GPT;SLC25A10;GAPDH;SLC25A1;GPD1;GOT1
53			
54	**Proliferation, Cell cycle**		
55	positive regulation of cell proliferation	0.00011	PRKCZ;SPDYA;MVD;MAS1;CGA;NOTCH1;FGFR3;IGF2;EPCAM;GDF9;ABO;RBPJ;BNC1;CNTFR;IHH;ADCYAP1;MATK;MST1R;IL15;SPHK1;ID2;CHRNA7;PRAMEF8;CDC20;KITLG;CDC25B;ID4;EDNRB;S100B;KIT;FZR1;AREG;PDF;PTN;TNFSF13B;FLT4;FGF18;FNTB;SFRP1
56			
57	**Signaling**		
58	synaptic transmission	1.51E-07	HCN2;ABCC9;PCDHB5;KCNAB3;BSN;NPTX2;ALDH2;CBLN1;CDH8;PCDHB11;KCNJ9;CHRNE;KCNS3;ACHE;DLG2;SLC6A1;SLC12A5;KCNC4;CHRNA7;KCNAB2;KCNG2;KCNN1;GRIA2;PRKCB;RAB3A;KCNH2;KCNQ1;SCN1B;ARHGEF9;SYN2;PCDH8;RAPSN;GRIN2D;TSPO;CNTNAP1;KCNN2;CACNA1A;CLSTN3;UNC13A;ADCY7;CHRNA5;KCNK1
59	response to estradiol	0.00015	DHH;MUC4;IGF2;ALDH2;NOS3;IHH;CCNE1;NR2F2;SFRP4;SOCS1;SLC6A1;CYP19A1;AREG;MMP15;ADCYAP1R1;OGG1;GPX4
60	Notch signaling pathway	0.00019	ARRB1;DNER;TP63;NOTCH1;RBPJ;CHAC1;MIB2;TLE2;APH1A;MOV10;HOXD3;DTX1;NOTCH3;CNTN1;JAG2
61	cell-cell signaling	0.00076	HCN2;DHH;CGA;INHBA;BST2;FGFR3;INHA;WNT11;IHH;ADCYAP1;IL15;CD80;NFE2;WNT6;CCL5;ADRA2B;FGF11;EFNB3;PCDH8;NR5A1;FGF18;EFNA1
62	cellular response to transforming growth factor beta stimulus	0.002	MUC4;NOS3;CYP11A1;STAR;CCL5;ACVRL1;SFRP1

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	A	B	C
63	neurotrophin TRK receptor signaling pathway	0.0026	FGF22;MAPK12;FGFR3;ADCYAP1;ARHGAP4;CD80;THEM4;KITLG;PRKAR2B;NET1;KIT;APH1A;MOV10;PRKCE;SHC2;DDIT4;ARHGEF9;LINGO1;ADCYAP1R1;ADCY7;FGF18
64	positive regulation of tyrosine phosphorylation of Stat1 protein	0.00405	FGFR3;HPX;KIT
65	cellular response to cAMP	0.0041	CFTR;CYP11A1;GPD1;STAR;DMTN;KCNQ1;PDE4D
66	transmembrane receptor protein tyrosine kinase signaling pathway	0.0049	ANGPTL1;EPHB2;EPHB3;ADCYAP1;GFRA1;MST1R;EPHA2;KIT;ADCYAP1R1;FLT4
67	protein phosphorylation	0.0065	RORC;PRKCZ;TRIB2;MAPK12;SGK1;LIPE;NEK2;PRKCH;FGFR3;TSSK6;EPHB2;MAP2K6;EPHB3;KNDC1;WNT11;ULK4;CCNE1;HIPK4;MAPK4;MATK;MST1R;TSSK3;EPHA2;MOK;CDC25B;PRKAR2B;PRKCB;CCL5;ACVRL1;MAST4;KIT;ADCK1;PRKCE;CAMKV;CDKL4;FLT4;IGFBP3;MELK
68	protein kinase C signaling	0.0075	PRKCZ;MAS1;PRKCH
69	cellular response to hormone stimulus	0.0081	CFTR;CGA;SLIT3;ALDH2;HSD17B3;RXRG
70	ephrin receptor signaling pathway	0.0082	EPHB2;EPHB3;EPHA2;EFNB3;EFNA1
71	activin receptor signaling pathway	0.0097	INHBA;INHBB;ACVRL1
72			
73	**Translation, mRNA stability**		
74	nuclear-transcribed mRNA catabolic process, nonsense-mediated decay	0.0027	RPLP1;RPS27;RPL8;RPS29;RPL10A;RPL36;DCP2;RPS16;RPL39;RPLP0;RPL38;RPS2
75			
76	**Transcription**		
77	nucleosome assembly	0.0031	H2AFZ;CENPA;HMGB2;HIST1H2BO;HIST1H2BL;CENPK;CASC5;HIST1H1D;HIST1H3F;HJURP;MIS18A;CENPH;HIST1H2BG;H1FOO
78	positive regulation of gene expression	0.0095	EPHX2;SOX8;RBPJ;WNT11;SFRP4;GRHL3;AGER;STAR;ID2;WNT6;MAF;CCL5;KIT;HOXD3;CNTN1;PLAUR
79			
80	**Transport**		

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	A	B	C
81	transmembrane transport	1.62E-08	HCN2;ABCC9;SLC25A10;CFTR;SLC2A3;SGK1;ABCG4;SLC50A1;SLC27A6;SLC12A3;TAP2;SLC7A11;SLC7A6;SLC39A11;SLC16A3;SLC5A2;KCNS3;ATP1B1;ATP1B2;HMOX1;TRPV4;HVCN1;SLC22A3;SLC2A1;SLC6A1;SLC25A43;FLVCR2;SLC12A5;KCNC4;SLC25A21;SLC27A1;ATP6V1C2;SCN8A;SLC25A30;SLC15A3;TRPM8;ABCC4;SLC16A14;PRKAR2B;SLC16A12;SFXN5;SLC44A2;SLC19A1;MFSD4;SLC16A6;KCNH2;SLC7A7;KCNQ1;ARHGEF9;SLC26A2;TMCO3;SPNS2;SLC6A7;CACNA1A;CACNA1D;ADCY7;SLC29A2;ABCB6;GJA5;CASQ1
82	transport	1.84E-07	HCN2;ABCC9;CFTR;SLC2A3;SLC50A1;SLC25A1;SLC12A3;KCNT1;SLC7A11;NXT1;PITPNM3;RILP;ASNA1;ATP1B2;SLC26A11;TRPV4;HVCN1;PLLP;CYBB;SLC22A3;RBP1;STAR;SLC2A1;SLC6A1;FLVCR2;SLC12A5;TIMM13;AP5Z1;KCNC4;SLC25A21;CHRNA7;KCNAB2;SCN8A;KCNN1;TRPM8;GABRP;CRABP2;GRIA2;SLC16A12;SFXN5;SLC19A1;RAB3A;MYO7A;SLC16A6;SLC7A4;TTYH2;SLC26A2;FDXR;SLC6A7;GRIN2D;STARD5;FADS2;KCNN2;CACNA1A;FOLR1;SCARA5;PTGDS;TIMM17B;ASIC4;SLC29A2;ABCB6;RIMS4;ARRB1;SLC25A10;NDUFA7;KCTD14;RAB6B;KCNAB3;TAP2;CUBN;KCNJ9;NDUFS7;CHRNE;TIMM8B;HPX;SLC7A6;FDX1;SLC39A11;SLC16A3;SLC5A2;KCNS3;ATP1B1;P2RX5;MFSD2A;SEC14L2;SLC25A43;SLC27A1;UQCR10;SPIRE2;ARF6;KCNG2;ATP6V1C2;SLC25A30;SLC15A3;SLC16A14;SLC44A2;MFSD4;KCNH2;SLC7A7;PKD2L2;KCNQ1;SCN1B;CLIC3;KCNK5;TMCO3;GPM6B;SPNS2;P2RX6;KIF17;RAB4B;CACNA1D;SORCS2;CHRNA5;KCNK1
83	potassium ion transport	1.24E-06	HCN2;ABCC9;KCNAB3;KCNJ9;KCNT1;KCNS3;ATP1B1;ATP1B2;SLC12A5;KCNC4;KCNAB2;KCNG2;KCNN1;KCNH2;KCNQ1;KCNK5;KCNN2;KCNK1;GJA5