## DisGeNET Top pathways by non-permulation

Geneset	stat	num.genes	pval	p.adj	gene.vals
Lupus Erythematosus, Systemic	0.04607791	832		2.565e-02	BTNL2:3 MAN2A1:7 SCARB1:14 SDS:15 PROM1:21 CRB1:29
Epidermolysis Bullosa	-0.25008719	29		2.565e-02	ITGB4:1 PLEC:5 DSP:22 DSC3:28 TGM5:96 KRT14:171
Epidermolysis Bullosa Simplex	-0.29212474	19		2.565e-02	ITGB4:1 PLEC:5 KRT80:10 TGM5:96 KRT14:171 KRT17:485
Palmoplantar Keratosis	-0.14231332	85		2.565e-02	PLEC:5 DSP:22 DSC3:28 TGM1:29 CARD14:48 ABCA12:101
Substance–Related Disorders	-0.11824798	113		2.865e-02	QSOX1:33 MYO5C:39 SYNE1:58 ANK3:68 CFTR:110 CSRNP3:173
Malaria, Vivax	0.25610575	23		3.484e-02	SLCO6A1:280 IL4R:338 TNF:340 IL12RB1:542 IL6:735 COIL:804
Organic Mental Disorders, Substance-Indu	-0.11446881	106	4.800e-05		QSOX1:33 MYO5C:39 SYNE1:58 CFTR:110 CSRNP3:173 TENM2:189
Drug Dependence	-0.09397156	160	4.291e-05		QSOX1:33 MYO5C:39 SYNE1:58 CFTR:110 OPRL1:166 CSRNP3:173
Drug Use Disorders	-0.11260683	109		4.476e-02	QSOX1:33 MYO5C:39 SYNE1:58 CFTR:110 CSRNP3:173 TENM2:189
Prescription Drug Abuse	-0.11446881	106		4.476e-02	QSOX1:33 MYO5C:39 SYNE1:58 CFTR:110 CSRNP3:173 TENM2:189
Substance Dependence	-0.10696833	126		4.476e-02	QSOX1:33 MYO5C:39 SYNE1:58 CFTR:110 CSRNP3:173 TENM2:189
Diphtheria	0.15201659	56	8.432e-05		EGF:67 ALB:93 LGR5:247 FADD:248 TNF:340 PLAUR:407
Gastric Cardia Carcinoma	0.30340098	14		6.405e-02	CYP1A1:146 CDKN2A:178 MDM2:240 SLCO6A1:280 TPT1:364 IL4:888
FANCONI ANEMIA, COMPLEMENTATION GROUP A	0.07748629	209		7.517e-02	FANCM:20 CD34:34 VCAM1:46 TET2:160 TP53BP1:203 CASP8:232
Erythrokeratoderma	-0.18014404	38		7.517e-02	DSP:22 CARD14:48 TRPV3:106 DSG2:116 FAM83G:127 KRT14:171
Fanconi Anemia	0.07336937	235	1.136e-04		FANCM:20 CD34:34 VCAM1:46 TET2:160 TP53BP1:203 CASP8:232
Oral mucosal blisters	-0.34774571	10		7.909e-02	ITGB4:1 PLEC:5 DSP:22 ITGA6:290 LAMC2:341 COL17A1:572
Substance abuse problem	-0.09422033	137		7.909e-02	QSOX1:33 MYO5C:39 SYNE1:58 ANK3:68 CFTR:110 CSRNP3:173
Congenital pyloric atresia	-0.48429378	5		9.115e-02	ITGB4:1 PLEC:5 ITGA6:290 LAMC2:341 COL17A1:572 NA
Anemia	0.05387378	397	2.530e-04		FANCM:20 CD34:34 EPB42:41 IL17RE:53 F11:77 CD38:85
Congenital myopathy (disorder)	-0.10458956	102	2.683e-04		MYH7B:2 MYH8:20 DMD:30 MYH3:78 COL6A1:111 TNNI2:135
Fabry Disease	0.16589252	40	2.850e-04		VCAM1:46 CTH:152 GLB1:200 MANBA:202 GLA:278 MEFV:420
Drug habituation	-0.09301829	126	3.198e-04		QSOX1:33 MYO5C:39 SYNE1:58 CFTR:110 CSRNP3:173 TENM2:189
Paraneoplastic pemphigus	-0.36567817	8	3.415e-04		A2ML1:77 DSG2:116 EVPL:122 DSG3:467 COL17A1:572 DSG1:1177
Parakeratosis	-0.26547875	15	3.716e-04	1.458e-01	DSP:22 CARD14:48 TRPV3:106 NIPAL4:638 NLRP1:837 IL23A:1088
Lupus Erythematosus, Discoid	0.06519182	248	4.299e-04		CR2:55 CD80:99 ABCC6:109 C1QA:179 CXCL13:194 TP53BP1:203
Substance Use Disorders	-0.08847204	130	5.087e-04	1.848e-01	QSOX1:33 MYO5C:39 SYNE1:58 CFTR:110 CSRNP3:173 TENM2:189
Arthritis, Adjuvant-Induced	0.16040510	38	6.262e-04	1.864e-01	ALB:93 IL33:208 TNF:340 ABCB1:444 DNASE2:488 DNMT1:570
Arthritis, Collagen-Induced	0.16040510	38	6.262e-04	1.864e-01	ALB:93 IL33:208 TNF:340 ABCB1:444 DNASE2:488 DNMT1:570
Arthritis, Experimental	0.16040510	38	6.262e-04	1.864e-01	ALB:93 IL33:208 TNF:340 ABCB1:444 DNASE2:488 DNMT1:570
Balkan Nephropathy	0.28314379	12	6.839e-04	1.864e-01	ALB:93 SLCO6A1:280 TNF:340 ABCB1:444 GTF2IRD1:533 GH1:1423
Helminthiasis	0.21310165	22	5.415e-04	1.864e-01	CD38:85 AGXT:103 IL33:208 SPZ1:291 TNFSF8:840 IL4:888
Junctional split	-0.40400768	6	6.099e-04	1.864e-01	ITGB4:1 PLEC:5 ITGA6:290 LAMC2:341 LAMB3:1218 LAMA3:7132.5
Left ventricular noncompaction cardiomyo	-0.18590455	28	6.647e-04	1.864e-01	MYH7B:2 PLEC:5 DSP:22 PRDM16:158 TNNT2:225 SCN5A:352
Peritonitis	0.09805906	101	6.740e-04	1.864e-01	VCAM1:46 OSMR:96 TMEM67:163 IL33:208 SLCO6A1:280 CX3CR1:298
Plantar hyperkeratosis	-0.40092077	6	6.714e-04	1.864e-01	ITGB4:1 PLEC:5 LAMC2:341 COL17A1:572 LAMB3:1218 LAMA3:7132.5
tumor vasculature	0.09347912	110	7.216e-04	1.913e-01	PROM1:21 CD34:34 PECAM1:127 CTH:152 ENG:169 MDM2:240
Tetany	0.21792336	20	7.429e-04	1.918e-01	TRPM6:48 HIRA:223 RREB1:515 GCM2:565 COMT:640 CASR:756
Defective enamel matrix	-0.15110160	39	1.100e-03	2.569e-01	ITGB4:1 PLEC:5 KRT14:171 ITGA6:290 LAMC2:341 FGFR2:383
Dysplasia of tooth enamel	-0.15110160	39	1.100e-03	2.569e-01	ITGB4:1 PLEC:5 KRT14:171 ITGA6:290 LAMC2:341 FGFR2:383