

**MDA\_MB\_231 Aza HALLMARKS**

	<b>ES</b>	<b>NES</b>	<b>NOM p-val</b>
HALLMARK_INTERFERON_ALPHA_RESPONSE	0.6275421	2.1086164	0
HALLMARK_INTERFERON_GAMMA_RESPONSE	0.541051	1.987132	0
HALLMARK_TNFA_SIGNALING_VIA_NFKB	0.5180564	1.8981366	0
HALLMARK_UV_RESPONSE_UP	0.4883096	1.7396264	0
HALLMARK_KRAS_SIGNALING_UP	0.4712805	1.7149631	0
HALLMARK_KRAS_SIGNALING_DN	0.4591485	1.6480469	3.11E-04
HALLMARK_TGF_BETA_SIGNALING	0.5322559	1.6205895	0.0043727
HALLMARK_ALLOGRAFT_REJECTION	0.4275191	1.5510427	6.18E-04
HALLMARK_INFLAMMATORY_RESPONSE	0.4134748	1.5066566	0.0021148
HALLMARK_MYC_TARGETS_V2	0.4688508	1.448695	0.0268707
HALLMARK_ESTROGEN_RESPONSE_LATE	0.389678	1.420124	0.0052599
HALLMARK_UNFOLDED_PROTEIN_RESPONSE	0.4156805	1.4184146	0.0135922
HALLMARK_P53_PATHWAY	0.3689877	1.3485723	0.0170992
HALLMARK_MYOGENESIS	0.3524635	1.28141	0.0380711
HALLMARK_COAGULATION	0.3639954	1.2630707	0.071775
HALLMARK_COMPLEMENT	0.3472535	1.2628134	0.0517611
HALLMARK_ESTROGEN_RESPONSE_EARLY	0.3437125	1.2539814	0.0561006
HALLMARK_WNT_BETA_CATENIN_SIGNALING	0.424486	1.2241427	0.1714286
HALLMARK_XENOBIOTIC_METABOLISM	0.3337837	1.2142665	0.0886973
HALLMARK_EPITHELIAL_MESENCHYMAL_TRANSITION	0.3327946	1.2113773	0.0870102
HALLMARK_REACTIVE_OXYGEN_SPECIES_PATHWAY	0.392027	1.1780441	0.1979557
HALLMARK_APOPTOSIS	0.3294634	1.1743819	0.1378984
HALLMARK_IL6_JAK_STAT3_SIGNALING	0.3493418	1.132405	0.2248481
HALLMARK_DNA_REPAIR	0.3167743	1.1215237	0.2083863
HALLMARK_IL2_STAT5_SIGNALING	0.2895577	1.0543302	0.325741
HALLMARK_MYC_TARGETS_V1	0.2447062	0.8963406	0.7470138
HALLMARK_PANCREAS_BETA_CELLS	-0.2748278	-0.8039609	0.8061411
HALLMARK_SPERMATOGENESIS	-0.2532309	-0.9175888	0.6754932
HALLMARK_HEDGEHOG_SIGNALING	-0.3235892	-0.9512101	0.536608
HALLMARK_HEME_METABOLISM	-0.2731912	-1.0597302	0.2689855
HALLMARK_G2M_CHECKPOINT	-0.278142	-1.0750802	0.2400475
HALLMARK_MITOTIC_SPINDLE	-0.2928206	-1.1369625	0.1460102
HALLMARK_ANGIOGENESIS	-0.4348889	-1.261111	0.1379475
HALLMARK_E2F_TARGETS	-0.3272851	-1.2704653	0.030215
HALLMARK_PI3K_AKT_MTOR_SIGNALING	-0.3697627	-1.3232315	0.0471747
HALLMARK_APICAL_JUNCTION	-0.3446439	-1.3243665	0.0169683
HALLMARK_NOTCH_SIGNALING	-0.4595089	-1.3256115	0.0939505
HALLMARK_APICAL_SURFACE	-0.4481222	-1.3905668	0.0562852
HALLMARK_HYPOXIA	-0.370935	-1.4329376	0.0011682
HALLMARK_ANDROGEN_RESPONSE	-0.4247213	-1.5100787	0.0066057
HALLMARK_ADIPOGENESIS	-0.3964035	-1.5378581	0.0011249
HALLMARK_PEROXISOME	-0.4495367	-1.6041163	0.003096
HALLMARK_BILE_ACID_METABOLISM	-0.4562578	-1.6309204	0.001552
HALLMARK_MTORC1_SIGNALING	-0.4216344	-1.6316552	0
HALLMARK_OXIDATIVE_PHOSPHORYLATION	-0.4340237	-1.6807648	0
HALLMARK_PROTEIN_SECRETION	-0.5006589	-1.7631066	0
HALLMARK_FATTY_ACID_METABOLISM	-0.4789901	-1.8079519	0
HALLMARK_GLYCOLYSIS	-0.473947	-1.8439951	0
HALLMARK_UV_RESPONSE_DN	-0.5332693	-1.9829372	0
HALLMARK_CHOLESTEROL_HOMEOSTASIS	-0.6893137	-2.3451262	0

**MDA\_MB\_231 Tai HALLMARKS**

<b>ES</b>	<b>NES</b>	<b>NOM p-val</b>
-----------	------------	------------------

HALLMARK_TNFA_SIGNALING_VIA_NFKB	0.7138413	2.624634	0
HALLMARK_INTERFERON_ALPHA_RESPONSE	0.7284088	2.4395006	0
HALLMARK_INTERFERON_GAMMA_RESPONSE	0.623052	2.2869916	0
HALLMARK_INFLAMMATORY_RESPONSE	0.5818743	2.1344433	0
HALLMARK_KRAS_SIGNALING_UP	0.55864	2.062209	0
HALLMARK_IL6_JAK_STAT3_SIGNALING	0.5405787	1.7646778	3.58E-04
HALLMARK_TGF_BETA_SIGNALING	0.5732389	1.7607476	3.54E-04
HALLMARK_UV_RESPONSE_UP	0.4623632	1.6548804	0
HALLMARK_ALLOGRAFT_REJECTION	0.4444167	1.6192553	0
HALLMARK_P53_PATHWAY	0.4218586	1.554558	3.41E-04
HALLMARK_EPITHELIAL_MESENCHYMAL_TRANSITION	0.4090802	1.4985152	6.94E-04
HALLMARK_APOPTOSIS	0.4155452	1.4967438	0.0038828
HALLMARK_IL2_STAT5_SIGNALING	0.3805175	1.3987339	0.0087719
HALLMARK_COAGULATION	0.3929359	1.3620725	0.0282586
HALLMARK_MYC_TARGETS_V2	0.4386399	1.361615	0.0615665
HALLMARK_COMPLEMENT	0.3641735	1.3331785	0.0217241
HALLMARK_HYPOXIA	0.3367422	1.2340126	0.0621222
HALLMARK_ESTROGEN_RESPONSE_EARLY	0.3236678	1.1870208	0.1040541
HALLMARK_KRAS_SIGNALING_DN	0.3248995	1.1746051	0.1225269
HALLMARK_UNFOLDED_PROTEIN_RESPONSE	0.3312641	1.1364925	0.1992256
HALLMARK_XENOBIOTIC_METABOLISM	0.2955707	1.0814766	0.2601988
HALLMARK_WNT_BETA_CATENIN_SIGNALING	0.3458002	1.0104796	0.4224579
HALLMARK_PANCREAS_BETA_CELLS	-0.2359216	-0.6737535	0.9558374
HALLMARK_REACTIVE_OXYGEN_SPECIES_PATHWAY	-0.2862153	-0.8843333	0.6659492
HALLMARK_NOTCH_SIGNALING	-0.3466379	-0.9781117	0.4940324
HALLMARK_PI3K_AKT_MTOR_SIGNALING	-0.3029459	-1.0553014	0.3321316
HALLMARK_DNA_REPAIR	-0.2890048	-1.0657979	0.2905213
HALLMARK_ANGIOGENESIS	-0.3811003	-1.095928	0.3011037
HALLMARK_HEME_METABOLISM	-0.302197	-1.1426778	0.1331041
HALLMARK_MITOTIC_SPINDLE	-0.3073959	-1.1734895	0.0982522
HALLMARK_APICAL_SURFACE	-0.4141744	-1.25415	0.1299911
HALLMARK_MYC_TARGETS_V1	-0.3519389	-1.3356323	0.0158025
HALLMARK_APICAL_JUNCTION	-0.3529303	-1.3462985	0.016129
HALLMARK_ESTROGEN_RESPONSE_LATE	-0.3765923	-1.4269685	0.0061905
HALLMARK_ADIPOGENESIS	-0.400137	-1.5360881	5.01E-04
HALLMARK_MYOGENESIS	-0.4139911	-1.5678363	9.63E-04
HALLMARK_PEROXISOME	-0.4593521	-1.5977726	0.0026906
HALLMARK_UV_RESPONSE_DN	-0.4410736	-1.6111289	4.78E-04
HALLMARK_SPERMATOGENESIS	-0.4702483	-1.6720939	0
HALLMARK_HEDGEHOG_SIGNALING	-0.5798444	-1.6775298	0.0066138
HALLMARK_PROTEIN_SECRETION	-0.4969342	-1.7061207	4.59E-04
HALLMARK_OXIDATIVE_PHOSPHORYLATION	-0.4496197	-1.7100667	0
HALLMARK_G2M_CHECKPOINT	-0.4591426	-1.7503686	0
HALLMARK_ANDROGEN_RESPONSE	-0.5290195	-1.8472935	0
HALLMARK_GLYCOLYSIS	-0.4944668	-1.8755941	0
HALLMARK_BILE_ACID_METABOLISM	-0.5372698	-1.8886708	0
HALLMARK_E2F_TARGETS	-0.4960334	-1.8966684	0
HALLMARK_MTORC1_SIGNALING	-0.5053662	-1.9270604	0
HALLMARK_FATTY_ACID_METABOLISM	-0.5407851	-1.9994308	0
HALLMARK_CHOLESTEROL_HOMEOSTASIS	-0.7478676	-2.4898958	0

**MDA\_MB\_231 Combo HALLMARKS**

HALLMARK\_TNFA\_SIGNALING\_VIA\_NFKB

ES	NES	NOM p-val
0.7655702	2.7020304	0

HALLMARK_INTERFERON_ALPHA_RESPONSE	0.7518176	2.461827	0
HALLMARK_INTERFERON_GAMMA_RESPONSE	0.6693721	2.3759086	0
HALLMARK_INFLAMMATORY_RESPONSE	0.6333183	2.241127	0
HALLMARK_KRAS_SIGNALING_UP	0.5911193	2.078928	0
HALLMARK_IL6_JAK_STAT3_SIGNALING	0.6362654	2.024588	0
HALLMARK_ALLOGRAFT_REJECTION	0.5431302	1.9111043	0
HALLMARK_COAGULATION	0.5405512	1.8247225	0
HALLMARK_COMPLEMENT	0.4996924	1.7631041	0
HALLMARK_UV_RESPONSE_UP	0.5068026	1.7492442	0
HALLMARK_APOPTOSIS	0.4922374	1.7035556	2.55E-04
HALLMARK_P53_PATHWAY	0.4730575	1.6821773	2.43E-04
HALLMARK_EPITHELIAL_MESENCHYMAL_TRANSITION	0.4573561	1.615678	2.45E-04
HALLMARK_KRAS_SIGNALING_DN	0.4422099	1.5407461	0.0020372
HALLMARK_ESTROGEN_RESPONSE_EARLY	0.3971457	1.4047815	0.0093619
HALLMARK_ESTROGEN_RESPONSE_LATE	0.3952856	1.400378	0.00925
HALLMARK_HYPOXIA	0.3937348	1.3897607	0.0123031
HALLMARK_TGF_BETA_SIGNALING	0.4555545	1.3629286	0.0685484
HALLMARK_IL2_STAT5_SIGNALING	0.3745247	1.3220377	0.0279219
HALLMARK_XENOBIOTIC_METABOLISM	0.3649519	1.2859981	0.044067
HALLMARK_MYOGENESIS	0.3417771	1.2009821	0.1115753
HALLMARK_WNT_BETA_CATENIN_SIGNALING	0.4156734	1.1825613	0.2129854
HALLMARK_APICAL_SURFACE	0.3521216	1.0061524	0.448855
HALLMARK_UNFOLDED_PROTEIN_RESPONSE	0.3003004	1.0013072	0.450912
HALLMARK_APICAL_JUNCTION	0.282644	0.9992393	0.4676556
HALLMARK_HEME_METABOLISM	0.2748415	0.9694397	0.5422655
HALLMARK_ANGIOGENESIS	0.3522258	0.9665502	0.5100856
HALLMARK_DNA_REPAIR	0.2658043	0.9147165	0.6654795
HALLMARK_MYC_TARGETS_V2	0.2770548	0.8396061	0.7520924
HALLMARK_PANCREAS_BETA_CELLS	0.2965591	0.8051789	0.7712601
HALLMARK_REACTIVE_OXYGEN_SPECIES_PATHWAY	-0.3200453	-1.0536543	0.3471235
HALLMARK_PI3K_AKT_MTOR_SIGNALING	-0.2958663	-1.1145462	0.2159696
HALLMARK_NOTCH_SIGNALING	-0.3813426	-1.1519728	0.2334456
HALLMARK_HEDGEHOG_SIGNALING	-0.4132479	-1.2763283	0.120651
HALLMARK_BILE_ACID_METABOLISM	-0.3643433	-1.3813232	0.0151636
HALLMARK_ADIPOGENESIS	-0.3391138	-1.3851222	0.004386
HALLMARK_SPERMATOGENESIS	-0.4153343	-1.583869	8.34E-04
HALLMARK_PEROXISOME	-0.4226314	-1.594547	0.0015613
HALLMARK_MITOTIC_SPINDLE	-0.4053021	-1.6504989	0
HALLMARK_ANDROGEN_RESPONSE	-0.4445762	-1.6606736	0
HALLMARK_PROTEIN_SECRETION	-0.464379	-1.7163779	7.40E-04
HALLMARK_OXIDATIVE_PHOSPHORYLATION	-0.4239186	-1.7396973	0
HALLMARK_UV_RESPONSE_DN	-0.4536163	-1.7647052	0
HALLMARK_MTORC1_SIGNALING	-0.4768176	-1.9618165	0
HALLMARK_FATTY_ACID_METABOLISM	-0.4957001	-1.9629364	0
HALLMARK_GLYCOLYSIS	-0.4878241	-1.9967148	0
HALLMARK_MYC_TARGETS_V1	-0.5152736	-2.109906	0
HALLMARK_CHOLESTEROL_HOMEOSTASIS	-0.624931	-2.2354589	0
HALLMARK_G2M_CHECKPOINT	-0.6055016	-2.483922	0
HALLMARK_E2F_TARGETS	-0.6499648	-2.6450274	0

**FDR q-val**

0  
8.12E-05  
2.78E-04  
0.0016949  
0.0020691  
0.0048783  
0.0065046  
0.0126058  
0.0184933  
0.0302286  
0.0369094  
0.0345166  
0.0646504  
0.1140579  
0.1248261  
0.1173416  
0.1189126  
0.1442978  
0.1484293  
0.1442854  
0.1789699  
0.1761312  
0.2274782  
0.234479  
0.3477863  
0.7102549  
0.9281717  
0.7094809  
0.6313379  
0.3454599  
0.3264672  
0.2222514  
0.0864557  
0.0843655  
0.0560507  
0.0590537  
0.0624511  
0.0367232  
0.0271099  
0.0134295  
0.0112471  
0.006413  
0.0050186  
0.0057356  
0.0037257  
0.0013446  
9.83E-04  
7.53E-04  
1.14E-04  
0

**FDR q-val**

0  
0  
0  
0  
0  
7.73E-04  
7.27E-04  
0.0029359  
0.0043572  
0.008315  
0.0142974  
0.0133223  
0.033629  
0.0453595  
0.0424393  
0.051651  
0.1166002  
0.1598897  
0.1666413  
0.2098293  
0.290703  
0.4237952  
0.9920413  
0.7943661  
0.5391442  
0.3533609  
0.3432631  
0.2923746  
0.2177279  
0.1802065  
0.0979787  
0.0512901  
0.0490684  
0.0247531  
0.0087823  
0.0067758  
0.0053079  
0.0047754  
0.0024366  
0.0025432  
0.0020725  
0.0020912  
0.0013622  
5.04E-04  
3.72E-04  
4.47E-04  
5.59E-04  
2.68E-04  
1.22E-04  
0

**FDR q-val**

0

0  
0  
0  
0  
0  
4.55E-05  
2.59E-04  
6.64E-04  
6.94E-04  
0.0012567  
0.0016496  
0.0040943  
0.0090865  
0.0398399  
0.0394018  
0.0413983  
0.051171  
0.0728925  
0.0967643  
0.1897704  
0.209127  
0.5885879  
0.576409  
0.5588278  
0.6121028  
0.5966392  
0.6997333  
0.8410496  
0.8757787  
0.3101481  
0.2099151  
0.1660278  
0.0641966  
0.0281968  
0.0291293  
0.0048543  
0.0047002  
0.0029893  
0.0030248  
0.0020136  
0.0017981  
0.0015034  
1.07E-04  
1.25E-04  
8.89E-05  
0  
0  
0  
0

**MDA\_MB\_231 Aza KEGG Pathways****ES**

KEGG_RIBOSOME	0.60637546
KEGG_SYSTEMIC_LUPUS_ERYTHEMATOSUS	0.5439829
KEGG_CYTOSOLIC_DNA_SENSING_PATHWAY	0.6140679
KEGG_PROTEASOME	0.5744876
KEGG_LINOLEIC_ACID_METABOLISM	0.63326013
KEGG_ARACHIDONIC_ACID_METABOLISM	0.51469564
KEGG_LEISHMANIA_INFECTION	0.47453082
KEGG_GLYCINE_SERINE_AND_THREONINE_METABOLISM	0.5497291
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION	0.3990369
KEGG_NITROGEN_METABOLISM	0.57233596
KEGG_BLADDER_CANCER	0.49653578
KEGG_RIG_I_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.46591157
KEGG_CARDIAC_MUSCLE_CONTRACTION	0.45415553
KEGG_PARKINSONS_DISEASE	0.40623003
KEGG_STEROID_HORMONE_BIOSYNTHESIS	0.50176144
KEGG_TGF_BETA_SIGNALING_PATHWAY	0.42768306
KEGG_OXIDATIVE_PHOSPHORYLATION	0.4000948
KEGG_HEMATOPOIETIC_CELL_LINEAGE	0.42701718
KEGG_JAK_STAT_SIGNALING_PATHWAY	0.39372844
KEGG_PRIMARY_IMMUNODEFICIENCY	0.4903711
KEGG_RETINOL_METABOLISM	0.42913172
KEGG_NEUROACTIVE_LIGAND_RECEPTOR_INTERACTION	0.33765385
KEGG_SPLICEOSOME	0.35093898
KEGG_HYPERTROPHIC_CARDIOMYOPATHY_HCM	0.3684181
KEGG_MAPK_SIGNALING_PATHWAY	0.30814305
KEGG_SELENOAMINO_ACID_METABOLISM	0.44145173
KEGG_RNA_POLYMERASE	0.42342424
KEGG_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.35099187
KEGG_DILATED_CARDIOMYOPATHY	0.34733444
KEGG_ALANINE_ASPARTATE_AND_Glutamate_METABOLISM	0.4072109
KEGG_AMINOACYL_TRNA_BIOSYNTHESIS	0.39164203
KEGG_GRAFT_VERSUS_HOST_DISEASE	0.4211407
KEGG_NOD_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.36351854
KEGG_VEGF_SIGNALING_PATHWAY	0.34143263
KEGG_METABOLISM_OF_XENOBIOTICS_BY_CYTOCHROME_P450	0.36160728
KEGG_LEUKOCYTE_TRANSENDOTHELIAL_MIGRATION	0.2986771
KEGG_PATHOGENIC_ESCHERICHIA_COLI_INFECTION	0.33963814
KEGG_GAP_JUNCTION	0.309069
KEGG_HUNTINGTONS_DISEASE	0.28053695
KEGG_TRYPTOPHAN_METABOLISM	0.3543805
KEGG_ARRHYTHMOGENIC_RIGHT_VENTRICULAR_CARDIOMYOPATHY	0.31770244
KEGG_EPITHELIAL_CELL_SIGNALING_IN_HELICOBACTER_PYLORI_IN	0.31956384
KEGG_Glutathione_METABOLISM	0.33530834
KEGG_CALCIIUM_SIGNALING_PATHWAY	0.26257548

KEGG_MATURITY_ONSET_DIABETES_OF_THE_YOUNG	0.35680562
KEGG_INTESTINAL_IMMUNE_NETWORK_FOR_IGA_PRODUCTION	0.3100628
KEGG_ANTIGEN_PROCESSING_AND_PRESENTATION	0.28329924
KEGG_PHENYLALANINE_METABOLISM	0.3421725
KEGG_TYPE_I_DIABETES_MELLITUS	0.27650905
KEGG_BASAL_CELL_CARCINOMA	0.24738291
KEGG_TYROSINE_METABOLISM	0.25124568
KEGG_HOMOLOGOUS_RECOMBINATION	0.2514542
KEGG_ALLOGRAFT_REJECTION	0.24048933
KEGG_AUTOIMMUNE_THYROID_DISEASE	0.18473385
KEGG_ASTHMA	-0.2492813
KEGG_BASE_EXCISION_REPAIR	-0.2232459
KEGG_REGULATION_OF_AUTOPHAGY	-0.29016745
KEGG_RNA_DEGRADATION	-0.23514731
KEGG_ACUTE_MYELOID_LEUKEMIA	-0.2430051
KEGG_THYROID_CANCER	-0.27428663
KEGG_OLFACTORY_TRANSDUCTION	-0.21788049
KEGG_VASOPRESSIN_REGULATED_WATER_REABSORPTION	-0.27358782
KEGG_PANCREATIC_CANCER	-0.25985643
KEGG_RIBOFLAVIN_METABOLISM	-0.35050654
KEGG_PROXIMAL_TUBULE_BICARBONATE_RECLAMATION	-0.33941287
KEGG_INOSITOL_PHOSPHATE_METABOLISM	-0.29374522
KEGG_PYRIMIDINE_METABOLISM	-0.27235213
KEGG_NOTCH_SIGNALING_PATHWAY	-0.3142338
KEGG_ARGININE_AND_PROLINE_METABOLISM	-0.29881403
KEGG_LONG_TERM_DEPRESSION	-0.29504386
KEGG_PORPHYRIN_AND_CHLOROPHYLL_METABOLISM	-0.34900254
KEGG_VIRAL_MYOCARDITIS	-0.30465913
KEGG_NUCLEOTIDE_EXCISION_REPAIR	-0.31989062
KEGG_DNA_REPLICATION	-0.33399945
KEGG_ENDOCYTOSIS	-0.25758043
KEGG_B_CELL_RECEPTOR_SIGNALING_PATHWAY	-0.2992567
KEGG_ADIPOCYTOKINE_SIGNALING_PATHWAY	-0.3035565
KEGG_VIBRIO_CHOLERAE_INFECTION	-0.31732354
KEGG_DRUG_METABOLISM_OTHER_ENZYMES	-0.3450244
KEGG_P53_SIGNALING_PATHWAY	-0.305911
KEGG_HEDGEHOG_SIGNALING_PATHWAY	-0.31825885
KEGG_TYPE_II_DIABETES_MELLITUS	-0.33110243
KEGG_T_CELL_RECEPTOR_SIGNALING_PATHWAY	-0.28698736
KEGG_ABC_TRANSPORTERS	-0.34209278
KEGG_ADHERENS_JUNCTION	-0.30522272
KEGG_CHEMOKINE_SIGNALING_PATHWAY	-0.2782729
KEGG_ENDOMETRIAL_CANCER	-0.3337956
KEGG_CYSTEINE_AND_METHIONINE_METABOLISM	-0.3615217
KEGG_APOPTOSIS	-0.30542946

KEGG_MELANOGENESIS	-0.30889323
KEGG_FC_GAMMA_R_MEDIATED_PHAGOCYTOSIS	-0.31269032
KEGG_CELL_CYCLE	-0.2974129
KEGG_HISTIDINE_METABOLISM	-0.38696375
KEGG_PROGESTERONE_MEDIATED_OOCYTE_MATURATION	-0.31816334
KEGG_PROSTATE_CANCER	-0.31043592
KEGG_ETHER_LIPID_METABOLISM	-0.40808868
KEGG_ALDOSTERONE_REGULATED_SODIUM_REABSORPTION	-0.37895077
KEGG_SNARE_INTERACTIONS_IN_VESICULAR_TRANSPORT	-0.37941918
KEGG_NATURAL_KILLER_CELL_MEDIATED_CYTOTOXICITY	-0.32070154
KEGG_ONE_CARBON_POOL_BY_FOLATE	-0.45906997
KEGG_GLYCOSPHINGOLIPID_BIOSYNTHESIS_GANGLIO_SERIES	-0.4866729
KEGG_CHRONIC_MYELOID_LEUKEMIA	-0.34562737
KEGG_BASAL_TRANSCRIPTION_FACTORS	-0.39747038
KEGG_PRIMARY_BILE_ACID_BIOSYNTHESIS	-0.47364572
KEGG_MELANOMA	-0.35384846
KEGG_SPHINGOLIPID_METABOLISM	-0.39659438
KEGG_PHOSPHATIDYLINOSITOL_SIGNALING_SYSTEM	-0.34802762
KEGG_ALZHEIMERS_DISEASE	-0.31560284
KEGG_VASCULAR_SMOOTH_MUSCLE_CONTRACTION	-0.33544073
KEGG_AMYOTROPHIC_LATERAL_SCLEROSIS_ALS	-0.38015145
KEGG_PURINE_METABOLISM	-0.318506
KEGG_FRUCTOSE_AND_MANNOSE_METABOLISM	-0.42308876
KEGG_NEUROTROPHIN_SIGNALING_PATHWAY	-0.33180663
KEGG_TIGHT_JUNCTION	-0.3346315
KEGG_MISMATCH_REPAIR	-0.47067973
KEGG_GLYCEROLIPID_METABOLISM	-0.41193864
KEGG_MTOR_SIGNALING_PATHWAY	-0.404346
KEGG_DRUG_METABOLISM_CYTOCHROME_P450	-0.40294555
KEGG_PRION_DISEASES	-0.44590172
KEGG_TASTE_TRANSDUCTION	-0.44596732
KEGG_WNT_SIGNALING_PATHWAY	-0.3435914
KEGG_UBIQUITIN_MEDIATED_PROTEOLYSIS	-0.35323915
KEGG_GNRH_SIGNALING_PATHWAY	-0.3749273
KEGG_PROTEIN_EXPORT	-0.47808075
KEGG_PATHWAYS_IN_CANCER	-0.32527947
KEGG_NON_SMALL_CELL_LUNG_CANCER	-0.41968077
KEGG_COMPLEMENT_AND_COAGULATION_CASCADES	-0.4084925
KEGG_NICOTINATE_AND_NICOTINAMIDE_METABOLISM	-0.49744612
KEGG_REGULATION_OF_ACTIN_CYTOSKELETON	-0.3465854
KEGG_COLORECTAL_CANCER	-0.411814
KEGG_GLIOMA	-0.42260587
KEGG_DORSO_VENTRAL_AXIS_FORMATION	-0.502289
KEGG_RENAL_CELL_CARCINOMA	-0.41452363
KEGG_LONG_TERM_POTENTIATION	-0.41478416

KEGG_AMINO_SUGAR_AND_NUCLEOTIDE_SUGAR_METABOLISM	-0.44860834
KEGG_OOCYTE_MEIOSIS	-0.38589925
KEGG_PPAR_SIGNALING_PATHWAY	-0.42449877
KEGG_FC_EPSILON_RI_SIGNALING_PATHWAY	-0.41508162
KEGG_GLYCEROPHOSPHOLIPID_METABOLISM	-0.41378698
KEGG_BETA_ALANINE_METABOLISM	-0.52808917
KEGG_SMALL_CELL_LUNG_CANCER	-0.42220291
KEGG_GLYCOSPHINGOLIPID_BIOSYNTHESIS_LACTO_AND_NEOLACTI	-0.5587223
KEGG_ERBB_SIGNALING_PATHWAY	-0.43493447
KEGG_PANTOTHENATE_AND_COA_BIOSYNTHESIS	-0.62231404
KEGG_FOCAL_ADHESION	-0.39884162
KEGG_BUTANOATE_METABOLISM	-0.5424891
KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_CHONDROITIN_SULFA	-0.5945113
KEGG_CELL_ADHESION_MOLECULES_CAMS	-0.43540987
KEGG_PENTOSE_PHOSPHATE_PATHWAY	-0.59252733
KEGG_LYSOSOME	-0.4427546
KEGG_GALACTOSE_METABOLISM	-0.5942999
KEGG_LYSINE_DEGRADATION	-0.5304627
KEGG_STARCH_AND_SUCROSE_METABOLISM	-0.5681331
KEGG_AXON_GUIDANCE	-0.46058887
KEGG_O_GLYCAN_BIOSYNTHESIS	-0.6023655
KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_HEPARAN_SULFATE	-0.6136124
KEGG_PEROXISOME	-0.50572515
KEGG_ECM_RECEPTOR_INTERACTION	-0.50295573
KEGG_INSULIN_SIGNALING_PATHWAY	-0.47409573
KEGG_CITRATE_CYCLE_TCA_CYCLE	-0.61504006
KEGG_FATTY_ACID_METABOLISM	-0.58698505
KEGG_GLYCOSYLPHOSPHATIDYLINOSITOL_GPI_ANCHOR_BIOSYNTH	-0.6482565
KEGG_GLYCOLYSIS_GLUONEOGENESIS	-0.6190397
KEGG_BIOSYNTHESIS_OF_UNSATURATED_FATTY_ACIDS	-0.751438
KEGG_N_GLYCAN_BIOSYNTHESIS	-0.64778596
KEGG_GLYCOSAMINOGLYCAN_DEGRADATION	-0.77411276
KEGG_PYRUVATE_METABOLISM	-0.6879673
KEGG_STEROID_BIOSYNTHESIS	-0.8682179
KEGG_PROPANOATE_METABOLISM	-0.7527753
KEGG_VALINE_LEUCINE_AND_ISOLEUCINE_DEGRADATION	-0.7435703

**MDA\_MB\_231 Tal KEGG Pathways**

	<b>ES</b>
KEGG_CYTOSOLIC_DNA_SENSING_PATHWAY	0.7198765
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION	0.5445475
KEGG_BLADDER_CANCER	0.65832055
KEGG_NOD_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.61749184
KEGG_LEISHMANIA_INFECTION	0.57225555
KEGG_GRAFT_VERSUS_HOST_DISEASE	0.6665379
KEGG_HEMATOPOIETIC_CELL_LINEAGE	0.5412434

KEGG_RIG_I_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.5682246
KEGG_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.520377
KEGG_RIBOSOME	0.5110061
KEGG_PROTEASOME	0.52313834
KEGG_EPITHELIAL_CELL_SIGNALING_IN_HELICOBACTER_PYLORI_IN	0.46993405
KEGG_PRIMARY_IMMUNODEFICIENCY	0.54584897
KEGG_AMINOACYL_TRNA_BIOSYNTHESIS	0.48395744
KEGG_APOPTOSIS	0.42138365
KEGG_VEGF_SIGNALING_PATHWAY	0.432578
KEGG_OXIDATIVE_PHOSPHORYLATION	0.39341825
KEGG_GLYCINE_SERINE_AND_THREONINE_METABOLISM	0.49592245
KEGG_LINOLEIC_ACID_METABOLISM	0.53543764
KEGG_PARKINSONS_DISEASE	0.3791555
KEGG_JAK_STAT_SIGNALING_PATHWAY	0.37231585
KEGG_CHEMOKINE_SIGNALING_PATHWAY	0.35915303
KEGG_COMPLEMENT_AND_COAGULATION_CASCADES	0.412013
KEGG_MAPK_SIGNALING_PATHWAY	0.33239523
KEGG_INTESTINAL_IMMUNE_NETWORK_FOR_IGA_PRODUCTION	0.4410752
KEGG_B_CELL_RECEPTOR_SIGNALING_PATHWAY	0.38348913
KEGG_TYPE_I_DIABETES_MELLITUS	0.43593526
KEGG_NEUROACTIVE_LIGAND_RECEPTOR_INTERACTION	0.33159265
KEGG_SMALL_CELL_LUNG_CANCER	0.37039393
KEGG_STEROID_HORMONE_BIOSYNTHESIS	0.43141934
KEGG_LEUKOCYTE_TRANSENDOTHELIAL_MIGRATION	0.34932643
KEGG_PATHWAYS_IN_CANCER	0.3075497
KEGG_T_CELL_RECEPTOR_SIGNALING_PATHWAY	0.34282354
KEGG_HOMOLOGOUS_RECOMBINATION	0.41347253
KEGG_CARDIAC_MUSCLE_CONTRACTION	0.35028931
KEGG_PRION_DISEASES	0.4042507
KEGG_ENDOCYTOSIS	0.29789028
KEGG_FC_GAMMA_R_MEDIATED_PHAGOCYTOSIS	0.3215341
KEGG_NATURAL_KILLER_CELL_MEDIATED_CYTOTOXICITY	0.31945926
KEGG_HYPERTROPHIC_CARDIOMYOPATHY_HCM	0.33065584
KEGG_RNA_POLYMERASE	0.38525265
KEGG_P53_SIGNALING_PATHWAY	0.32487428
KEGG_ALANINE_ASPARTATE_AND_GLUTAMATE_METABOLISM	0.3798085
KEGG_SNARE_INTERACTIONS_IN_VESICULAR_TRANSPORT	0.34014958
KEGG_METABOLISM_OF_XENOBIOTICS_BY_CYTOCHROME_P450	0.32336378
KEGG_THYROID_CANCER	0.3507004
KEGG_VIRAL_MYOCARDITIS	0.28852797
KEGG_SYSTEMIC_LUPUS_ERYTHEMATOSUS	0.2517373
KEGG_PANCREATIC_CANCER	0.26840425
KEGG_ARRHYTHMOGENIC_RIGHT_VENTRICULAR_CARDIOMYOPATHY	0.2732607
KEGG_VASOPRESSIN_REGULATED_WATER_REABSORPTION	0.29153395
KEGG_NITROGEN_METABOLISM	0.32038948

KEGG_DRUG_METABOLISM_OTHER_ENZYMES	0.29312542
KEGG_NOTCH_SIGNALING_PATHWAY	0.26304147
KEGG_UBIQUITIN_MEDIATED_PROTEOLYSIS	0.21708973
KEGG_PHENYLALANINE_METABOLISM	-0.22437027
KEGG_TYROSINE_METABOLISM	-0.22656712
KEGG_RNA_DEGRADATION	-0.23015396
KEGG_SELENOAMINO_ACID_METABOLISM	-0.2776545
KEGG_PATHOGENIC_ESCHERICHIA_COLI_INFECTION	-0.23788688
KEGG_ASTHMA	-0.3126103
KEGG_ALLOGRAFT_REJECTION	-0.2963614
KEGG_BASAL_CELL_CARCINOMA	-0.26895016
KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_CHONDROITIN_SULF/	-0.31969342
KEGG_ENDOMETRIAL_CANCER	-0.27169445
KEGG_PRIMARY_BILE_ACID_BIOSYNTHESIS	-0.35555768
KEGG_NUCLEOTIDE_EXCISION_REPAIR	-0.28630275
KEGG_ANTIGEN_PROCESSING_AND_PRESENTATION	-0.27565035
KEGG_MELANOMA	-0.27010027
KEGG_AUTOIMMUNE_THYROID_DISEASE	-0.31984696
KEGG_NON_SMALL_CELL_LUNG_CANCER	-0.28712097
KEGG_CHRONIC_MYELOID_LEUKEMIA	-0.2689592
KEGG_PHOSPHATIDYLINOSITOL_SIGNALING_SYSTEM	-0.2704305
KEGG_INOSITOL_PHOSPHATE_METABOLISM	-0.29739338
KEGG_ADHERENS_JUNCTION	-0.28661063
KEGG_RENAL_CELL_CARCINOMA	-0.29286638
KEGG_AMYOTROPHIC_LATERAL_SCLEROSIS_ALS	-0.3077216
KEGG_OLFACTORY_TRANSDUCTION	-0.26904243
KEGG_ARACHIDONIC_ACID_METABOLISM	-0.3227635
KEGG_REGULATION_OF_AUTOPHAGY	-0.3726834
KEGG_MISMATCH_REPAIR	-0.36815092
KEGG_NEUROTROPHIN_SIGNALING_PATHWAY	-0.27510166
KEGG_HUNTINGTONS_DISEASE	-0.26596674
KEGG_PYRIMIDINE_METABOLISM	-0.29034147
KEGG_ETHER_LIPID_METABOLISM	-0.37893423
KEGG_RETINOL_METABOLISM	-0.33530033
KEGG_VIBRIO_CHOLERAE_INFECTION	-0.32696438
KEGG_MATURITY_ONSET_DIABETES_OF_THE_YOUNG	-0.407864
KEGG_ONE_CARBON_POOL_BY_FOLATE	-0.43341255
KEGG_WNT_SIGNALING_PATHWAY	-0.28528702
KEGG_PROSTATE_CANCER	-0.30695546
KEGG_PORPHYRIN_AND_CHLOROPHYLL_METABOLISM	-0.39354622
KEGG_FOCAL_ADHESION	-0.28016248
KEGG_ARGININE_AND_PROLINE_METABOLISM	-0.33925393
KEGG_TIGHT_JUNCTION	-0.29615623
KEGG_GALACTOSE_METABOLISM	-0.412567
KEGG_BASE_EXCISION_REPAIR	-0.3701156

KEGG_TYPE_II_DIABETES_MELLITUS	-0.36180496
KEGG_ERBB_SIGNALING_PATHWAY	-0.3187838
KEGG_SPHINGOLIPID_METABOLISM	-0.366327
KEGG_DILATED_CARDIOMYOPATHY	-0.32383546
KEGG_DORSO_VENTRAL_AXIS_FORMATION	-0.4131299
KEGG_GLYCOSPHINGOLIPID_BIOSYNTHESIS_LACTO_AND_NEOLACTI	-0.4101943
KEGG_ADIPOCYTOKINE_SIGNALING_PATHWAY	-0.3397952
KEGG_ACUTE_MYELOID_LEUKEMIA	-0.3479253
KEGG_CYSTEINE_AND_METHIONINE_METABOLISM	-0.39977756
KEGG_AMINO_SUGAR_AND_NUCLEOTIDE_SUGAR_METABOLISM	-0.37696618
KEGG_AXON_GUIDANCE	-0.31441683
KEGG_GLYOXYLATE_AND_DICARBOXYLATE_METABOLISM	-0.4727142
KEGG_ALZHEIMERS_DISEASE	-0.3061335
KEGG_BASAL_TRANSCRIPTION_FACTORS	-0.39730212
KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_HEPARAN_SULFATE	-0.43078095
KEGG_RIBOFLAVIN_METABOLISM	-0.48703876
KEGG_SPLICEOSOME	-0.33067396
KEGG_FC_EPSILON_RI_SIGNALING_PATHWAY	-0.35858807
KEGG_NICOTINATE_AND_NICOTINAMIDE_METABOLISM	-0.45376962
KEGG_TGF_BETA_SIGNALING_PATHWAY	-0.3595599
KEGG_CALCIUM_SIGNALING_PATHWAY	-0.32591063
KEGG_MTOR_SIGNALING_PATHWAY	-0.39602163
KEGG_ALDOSTERONE_REGULATED_SODIUM_REABSORPTION	-0.42578602
KEGG_ABC_TRANSPORTERS	-0.40036568
KEGG_TRYPTOPHAN_METABOLISM	-0.4171745
KEGG_GLYCEROPHOSPHOLIPID_METABOLISM	-0.37826142
KEGG_CELL_ADHESION_MOLECULES_CAMS	-0.34953302
KEGG_REGULATION_OF_ACTIN_CYTOSKELETON	-0.3323367
KEGG_COLORECTAL_CANCER	-0.40634692
KEGG_PROTEIN_EXPORT	-0.48217043
KEGG_FRUCTOSE_AND_MANNOSE_METABOLISM	-0.4457966
KEGG_ECM_RECEPTOR_INTERACTION	-0.37948582
KEGG_GLYCEROLIPID_METABOLISM	-0.4244736
KEGG_LONG_TERM_DEPRESSION	-0.40182197
KEGG_HEDGEHOG_SIGNALING_PATHWAY	-0.4133694
KEGG_LONG_TERM_POTENTIATION	-0.40282643
KEGG_GLYCOSPHINGOLIPID_BIOSYNTHESIS_GANGLIO_SERIES	-0.55827916
KEGG_MELANOGENESIS	-0.3915403
KEGG_DNA_REPLICATION	-0.45805094
KEGG_GLIOMA	-0.4137187
KEGG_PURINE_METABOLISM	-0.35765037
KEGG_PPAR_SIGNALING_PATHWAY	-0.41448116
KEGG_BETA_ALANINE_METABOLISM	-0.54322064
KEGG_GNRH_SIGNALING_PATHWAY	-0.4051591
KEGG_PANTOTHENATE_AND_COA_BIOSYNTHESIS	-0.5838718

KEGG_GAP_JUNCTION	-0.4212978
KEGG_CELL_CYCLE	-0.41192108
KEGG_STARCH_AND_SUCROSE_METABOLISM	-0.5398021
KEGG_PROXIMAL_TUBULE_BICARBONATE_RECLAMATION	-0.58355993
KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_KERATAN_SULFATE	-0.6340872
KEGG_VASCULAR_SMOOTH_MUSCLE_CONTRACTION	-0.43647358
KEGG_LYSOSOME	-0.43685085
KEGG_DRUG_METABOLISM_CYTOCHROME_P450	-0.50077236
KEGG_TASTE_TRANSDUCTION	-0.5554944
KEGG_HISTIDINE_METABOLISM	-0.5816272
KEGG_PENTOSE_PHOSPHATE_PATHWAY	-0.6165907
KEGG_INSULIN_SIGNALING_PATHWAY	-0.46323305
KEGG_PROGESTERONE_MEDIATED_OOCYTE_MATURATION	-0.49210778
KEGG_O_GLYCAN_BIOSYNTHESIS	-0.6201184
KEGG_CITRATE_CYCLE_TCA_CYCLE	-0.6210194
KEGG_BIOSYNTHESIS_OF_UNSATURATED_FATTY_ACIDS	-0.65740895
KEGG_GLYTATHIONE_METABOLISM	-0.56292534
KEGG_OOCYTE_MEIOSIS	-0.48825896
KEGG_LYSINE_DEGRADATION	-0.5820596
KEGG_PEROXISOME	-0.53883165
KEGG_FATTY_ACID_METABOLISM	-0.6008708
KEGG_GLYCOSYLPHOSPHATIDYLINOSITOL_GPI_ANCHOR_BIOSYNTH	-0.69355196
KEGG_GLYCOSAMINOGLYCAN_DEGRADATION	-0.7401517
KEGG_PYRUVATE_METABOLISM	-0.66346145
KEGG_BUTANOATE_METABOLISM	-0.7145672
KEGG_N_GLYCAN_BIOSYNTHESIS	-0.64600277
KEGG_GLYCOLYSIS_GLUONEOGENESIS	-0.65063876
KEGG_PROPANOATE_METABOLISM	-0.75021297
KEGG_VALINE_LEUCINE_AND_ISOLEUCINE_DEGRADATION	-0.7484942
KEGG_STEROID_BIOSYNTHESIS	-0.95418453

**MDA\_MB\_231 Combo KEGG Pathways**

KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION	0.6466262
KEGG_CYTOSOLIC_DNA_SENSING_PATHWAY	0.73930043
KEGG_NOD_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.65705043
KEGG_LEISHMANIA_INFECTION	0.60926247
KEGG_HEMATOPOIETIC_CELL_LINEAGE	0.59049743
KEGG_BLADDER_CANCER	0.62761694
KEGG_JAK_STAT_SIGNALING_PATHWAY	0.53353524
KEGG_GRAFT_VERSUS_HOST_DISEASE	0.6860788
KEGG_RIG_I_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.59675694
KEGG_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	0.5469371
KEGG_PRIMARY_IMMUNODEFICIENCY	0.63153416
KEGG_EPITHELIAL_CELL_SIGNALING_IN_HELICOBACTER_PYLORI_IN	0.5221287
KEGG_TYPE_I_DIABETES_MELLITUS	0.58669394

**ES**

KEGG_CHEMOKINE_SIGNALING_PATHWAY	0.44786966
KEGG_ALLOGRAFT_REJECTION	0.5737171
KEGG_COMPLEMENT_AND_COAGULATION_CASCADES	0.49808455
KEGG_NATURAL_KILLER_CELL_MEDIATED_CYTOTOXICITY	0.44819182
KEGG_AUTOIMMUNE_THYROID_DISEASE	0.5414678
KEGG_APOPTOSIS	0.45045897
KEGG_MAPK_SIGNALING_PATHWAY	0.3856886
KEGG_ANTIGEN_PROCESSING_AND_PRESENTATION	0.45590565
KEGG_ARRHYTHMOGENIC_RIGHT_VENTRICULAR_CARDIOMYOPATHY	0.43200812
KEGG_B_CELL_RECEPTOR_SIGNALING_PATHWAY	0.4174673
KEGG_CARDIAC_MUSCLE_CONTRACTION	0.4206604
KEGG_HYPERTROPHIC_CARDIOMYOPATHY_HCM	0.40762225
KEGG_VEGF_SIGNALING_PATHWAY	0.41918263
KEGG_PRION_DISEASES	0.49106416
KEGG_LINOLEIC_ACID_METABOLISM	0.5290754
KEGG_INTESTINAL_IMMUNE_NETWORK_FOR_IGA_PRODUCTION	0.45525274
KEGG_OXIDATIVE_PHOSPHORYLATION	0.36981222
KEGG_PARKINSONS_DISEASE	0.36828977
KEGG_PHENYLALANINE_METABOLISM	0.52900517
KEGG_STEROID_HORMONE_BIOSYNTHESIS	0.43506908
KEGG_LEUKOCYTE_TRANSENDOTHELIAL_MIGRATION	0.3771044
KEGG_ASTHMA	0.51612717
KEGG_SMALL_CELL_LUNG_CANCER	0.38513702
KEGG_GLYCINE_SERINE_AND_THREONINE_METABOLISM	0.45806906
KEGG_RNA_POLYMERASE	0.465886
KEGG_PATHWAYS_IN_CANCER	0.329501
KEGG_ARACHIDONIC_ACID_METABOLISM	0.4130136
KEGG_VIRAL_MYOCARDITIS	0.3894369
KEGG_ECM_RECEPTOR_INTERACTION	0.37212867
KEGG_ENDOCYTOSIS	0.3387404
KEGG_T_CELL_RECEPTOR_SIGNALING_PATHWAY	0.3458418
KEGG_NEUROACTIVE_LIGAND_RECEPTOR_INTERACTION	0.3140583
KEGG_PROTEASOME	0.38163465
KEGG_FOCAL_ADHESION	0.31190866
KEGG_CELL_ADHESION_MOLECULES_CAMS	0.32900935
KEGG_DILATED_CARDIOMYOPATHY	0.34160691
KEGG_SNARE_INTERACTIONS_IN_VESICULAR_TRANSPORT	0.3809317
KEGG_RIBOSOME	0.33411226
KEGG_SELENOAMINO_ACID_METABOLISM	0.40834433
KEGG_TYROSINE_METABOLISM	0.3714807
KEGG_DORSO_VENTRAL_AXIS_FORMATION	0.40382326
KEGG_PATHOGENIC_ESCHERICHIA_COLI_INFECTIION	0.34378794
KEGG_PPAR_SIGNALING_PATHWAY	0.33715853
KEGG_ALZHEIMERS_DISEASE	0.27990356
KEGG_NOTCH_SIGNALING_PATHWAY	0.3322013

KEGG_ABC_TRANSPORTERS	0.34405527
KEGG_INOSITOL_PHOSPHATE_METABOLISM	0.30892372
KEGG_ADIPOCYTOKINE_SIGNALING_PATHWAY	0.2880918
KEGG_MATURITY_ONSET_DIABETES_OF_THE_YOUNG	0.35051975
KEGG_LYSOSOME	0.26657408
KEGG_HUNTINGTONS_DISEASE	0.25045305
KEGG_ALANINE_ASPARTATE_AND_GLUTAMATE_METABOLISM	0.32163137
KEGG_RETINOL_METABOLISM	0.27825537
KEGG_DRUG_METABOLISM_OTHER_ENZYMES	0.2910434
KEGG_PRIMARY_BILE_ACID_BIOSYNTHESIS	0.3525627
KEGG_THYROID_CANCER	0.30023193
KEGG_PHOSPHATIDYLINOSITOL_SIGNALING_SYSTEM	0.2607807
KEGG_FC_GAMMA_R_MEDIATED_PHAGOCYTOSIS	0.24608496
KEGG_ENDOMETRIAL_CANCER	0.26618958
KEGG_NITROGEN_METABOLISM	0.31540802
KEGG_PANCREATIC_CANCER	0.24605727
KEGG_AMINOACYL_TRNA_BIOSYNTHESIS	0.26909947
KEGG_REGULATION_OF_AUTOPHAGY	0.3025506
KEGG_HOMOLOGOUS_RECOMBINATION	0.24625985
KEGG_GLYCOSPHINGOLIPID_BIOSYNTHESIS_GANGLIO_SERIES	-0.32026953
KEGG_METABOLISM_OF_XENOBIOTICS_BY_CYTOCHROME_P450	-0.2502159
KEGG_ACUTE_MYELOID_LEUKEMIA	-0.26271588
KEGG_NON_SMALL_CELL_LUNG_CANCER	-0.27136713
KEGG_MELANOMA	-0.26767707
KEGG_TIGHT_JUNCTION	-0.24371217
KEGG_PYRIMIDINE_METABOLISM	-0.25089017
KEGG_ETHER_LIPID_METABOLISM	-0.34144348
KEGG_VASOPRESSIN_REGULATED_WATER_REABSORPTION	-0.30508384
KEGG_OLFACTORY_TRANSDUCTION	-0.2526787
KEGG_ARGININE_AND_PROLINE_METABOLISM	-0.30069038
KEGG_BASAL_CELL_CARCINOMA	-0.30058476
KEGG_RIBOFLAVIN_METABOLISM	-0.3963075
KEGG_HEDGEHOG_SIGNALING_PATHWAY	-0.31115007
KEGG_SPHINGOLIPID_METABOLISM	-0.33565307
KEGG_FC_EPSILON_RI_SIGNALING_PATHWAY	-0.30234712
KEGG_CALCIIUM_SIGNALING_PATHWAY	-0.26504225
KEGG_CHRONIC_MYELOID_LEUKEMIA	-0.2990341
KEGG_TYPE_II_DIABETES_MELLITUS	-0.3329859
KEGG_VIBRIO_CHOLERAE_INFECTION	-0.32428476
KEGG_DRUG_METABOLISM_CYTOCHROME_P450	-0.3197986
KEGG_ERBB_SIGNALING_PATHWAY	-0.29884297
KEGG_NICOTINATE_AND_NICOTINAMIDE_METABOLISM	-0.3843743
KEGG_MTOR_SIGNALING_PATHWAY	-0.33694765
KEGG_LONG_TERM_DEPRESSION	-0.3270069
KEGG_GAP_JUNCTION	-0.2973148

KEGG_P53_SIGNALING_PATHWAY	-0.31627887
KEGG_TRYPTOPHAN_METABOLISM	-0.37062302
KEGG_ALDOSTERONE_REGULATED_SODIUM_REABSORPTION	-0.37144083
KEGG_RENAL_CELL_CARCINOMA	-0.32853317
KEGG_TGF_BETA_SIGNALING_PATHWAY	-0.31533623
KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_CHONDROITIN_SULF/	-0.40925574
KEGG_AMYOTROPHIC_LATERAL_SCLEROSIS_ALS	-0.34578878
KEGG_HISTIDINE_METABOLISM	-0.4099766
KEGG_GLYCOSPHINGOLIPID_BIOSYNTHESIS_LACTO_AND_NEOLACTI	-0.4144874
KEGG_PURINE_METABOLISM	-0.29289857
KEGG_ADHERENS_JUNCTION	-0.3370736
KEGG_PROSTATE_CANCER	-0.3263817
KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_HEPARAN_SULFATE	-0.40888157
KEGG_NUCLEOTIDE_EXCISION_REPAIR	-0.37398776
KEGG_TASTE_TRANSDUCTION	-0.40273353
KEGG_BASE_EXCISION_REPAIR	-0.38842472
KEGG_NEUROTROPHIN_SIGNALING_PATHWAY	-0.31835955
KEGG_PANTOTHENATE_AND_COA_BIOSYNTHESIS	-0.4773129
KEGG_AMINO_SUGAR_AND_NUCLEOTIDE_SUGAR_METABOLISM	-0.397032
KEGG_GLIOMA	-0.36801276
KEGG_GLUTATHIONE_METABOLISM	-0.39546496
KEGG_BASAL_TRANSCRIPTION_FACTORS	-0.4052301
KEGG_GNRH_SIGNALING_PATHWAY	-0.35333905
KEGG_WNT_SIGNALING_PATHWAY	-0.3255712
KEGG_UBIQUITIN_MEDIATED_PROTEOLYSIS	-0.33192998
KEGG_REGULATION_OF_ACTIN_CYTOSKELETON	-0.3249384
KEGG_VASCULAR_SMOOTH_MUSCLE_CONTRACTION	-0.35464928
KEGG_RNA_DEGRADATION	-0.40477604
KEGG_MELANOGENESIS	-0.36252448
KEGG_GALACTOSE_METABOLISM	-0.47953245
KEGG_MISMATCH_REPAIR	-0.493547
KEGG_PORPHYRIN_AND_CHLOROPHYLL_METABOLISM	-0.4686733
KEGG_CYSTEINE_AND_METHIONINE_METABOLISM	-0.4572987
KEGG_AXON_GUIDANCE	-0.36106977
KEGG_GLYCEROPHOSPHOLIPID_METABOLISM	-0.3926214
KEGG_PROTEIN_EXPORT	-0.49347106
KEGG_LONG_TERM_POTENTIATION	-0.41407043
KEGG_ONE_CARBON_POOL_BY_FOLATE	-0.5454522
KEGG_FRUCTOSE_AND_MANNOSE_METABOLISM	-0.4761305
KEGG_SPLICEOSOME	-0.36998624
KEGG_PROXIMAL_TUBULE_BICARBONATE_RECLAMATION	-0.54528385
KEGG_GLYCOSAMINOGLYCAN_DEGRADATION	-0.54109234
KEGG_GLYCEROLIPID_METABOLISM	-0.4694233
KEGG_COLORECTAL_CANCER	-0.45276624
KEGG_PEROXISOME	-0.44068098

KEGG_PENTOSE_AND_GLUCURONATE_INTERCONVERSIONS	-0.6148965
KEGG_BETA_ALANINE_METABOLISM	-0.60124844
KEGG_SYSTEMIC_LUPUS_ERYTHEMATOSUS	-0.4303839
KEGG_O_GLYCAN_BIOSYNTHESIS	-0.5673696
KEGG_STARCH_AND_SUCROSE_METABOLISM	-0.54454666
KEGG_INSULIN_SIGNALING_PATHWAY	-0.4487223
KEGG_FATTY_ACID_METABOLISM	-0.5788245
KEGG_LYSINE_DEGRADATION	-0.5689378
KEGG_DNA_REPLICATION	-0.6069432
KEGG_PENTOSE_PHOSPHATE_PATHWAY	-0.6701712
KEGG_PROGESTERONE_MEDIATED_OOCYTE_MATURATION	-0.5343118
KEGG_CITRATE_CYCLE_TCA_CYCLE	-0.6596949
KEGG_BIOSYNTHESIS_OF_UNSATURATED_FATTY_ACIDS	-0.7041242
KEGG_CELL_CYCLE	-0.52761203
KEGG_OOCYTE_MEIOSIS	-0.553989
KEGG_GLYCOSYLPHOSPHATIDYLINOSITOL_GPI_ANCHOR_BIOSYNTH	-0.7488478
KEGG_BUTANOATE_METABOLISM	-0.7330776
KEGG_N_GLYCAN_BIOSYNTHESIS	-0.67515606
KEGG_GLYCOLYSIS_GLUONEOGENESIS	-0.65292585
KEGG_PYRUVATE_METABOLISM	-0.7205127
KEGG_PROPANOATE_METABOLISM	-0.76883304
KEGG_STEROID_BIOSYNTHESIS	-0.9223479
KEGG_VALINE_LEUCINE_AND_ISOLEUCINE_DEGRADATION	-0.7456502

NES	NOM p-val	FDR q-val
2.0102394		0 5.24E-04
1.8583963		0 0.0063460465
1.7697446		0 0.016139438
1.679015	0.005059022	0.04013194
1.5440767	0.025454545	0.13359642
1.5165272	0.020833334	0.14289846
1.5069039	0.006849315	0.13504288
1.5044255	0.035149384	0.12124993
1.4734937		0 0.1438644
1.4723188	0.04347826	0.13093719
1.4380578	0.03642987	0.1586877
1.4343821	0.02152318	0.14957388
1.4317133	0.026622295	0.14091223
1.4169017	0.014827018	0.14803739
1.4134469	0.06104129	0.14194794
1.4082538	0.024390243	0.13832621
1.3863044	0.02511774	0.15556638
1.3520634	0.059027776	0.18799071
1.3482821	0.030844156	0.18341209
1.3153031	0.13893966	0.22028089
1.2695137	0.13057852	0.28469944
1.2517321	0.05376344	0.30447963
1.2087142	0.125	0.37884516
1.1926271	0.16256158	0.39724723
1.1532555	0.13017751	0.4741048
1.1420829	0.27509293	0.48534006
1.1413436	0.2720588	0.4694583
1.1403923	0.20907618	0.45506468
1.1340992	0.21864952	0.4534481
1.1302793	0.28519857	0.447554
1.1256322	0.2944251	0.44310734
1.125211	0.28085867	0.43003166
1.121029	0.2457627	0.42562103
1.0842929	0.3149742	0.49659306
1.0788342	0.32608697	0.49512824
1.0184495	0.4124204	0.63047415
1.0152916	0.4186851	0.621367
1.0132754	0.4205298	0.6100955
1.012845	0.43609023	0.59543663
1.002287	0.46907216	0.6061779
1.001095	0.44768438	0.59452146
0.9958131	0.44658494	0.5930726
0.97987664	0.46737212	0.6177699
0.94227624	0.5955414	0.6926282

0.9105073	0.56845754	0.7542726
0.894686	0.64089346	0.7751845
0.88639736	0.6609589	0.7775923
0.8297297	0.7031872	0.8859278
0.7754835	0.8481229	0.9617622
0.7563497	0.90102386	0.96832705
0.73263085	0.8984238	0.97660553
0.6719657	0.95238096	1
0.66183245	0.96703297	0.98916703
0.513409	0.9981025	0.9979575
-0.65047365	0.9394673	0.97756416
-0.6576332	0.9557522	0.9838221
-0.7516799	0.8201754	0.9291225
-0.76618975	0.91358024	0.9215404
-0.78597033	0.8780488	0.90309817
-0.7890832	0.82997763	0.9064901
-0.8101481	0.93010753	0.88177913
-0.8305101	0.7699317	0.8515955
-0.86130905	0.7605985	0.79555655
-0.8663704	0.6537678	0.7909085
-0.89377916	0.6	0.73386353
-0.9531512	0.5507246	0.5990992
-0.9600274	0.5365854	0.58839136
-0.96009314	0.5	0.5938565
-0.9671483	0.50611246	0.58324593
-0.9692286	0.50605327	0.5842788
-0.9734455	0.47139588	0.5798826
-0.9832959	0.47969544	0.5610007
-0.9847101	0.45454547	0.5633108
-0.9905594	0.45901638	0.5546485
-0.99181485	0.47887325	0.55737495
-0.99932206	0.44717446	0.5457966
-1.0009638	0.41968912	0.5477533
-1.0010103	0.45901638	0.5535327
-1.009394	0.42243436	0.53873
-1.0119213	0.4347826	0.53846025
-1.0172403	0.4017857	0.53093034
-1.0173497	0.3904762	0.53657246
-1.0226351	0.39141414	0.5291598
-1.0309347	0.40193704	0.51550937
-1.0371333	0.35308057	0.50702643
-1.0474862	0.32676056	0.48910096
-1.0506003	0.35910225	0.487434
-1.0651522	0.354067	0.45953992
-1.0775282	0.28865978	0.43688866

-1.0844363	0.28148147	0.42698306
-1.0854625	0.26719576	0.43018028
-1.0896373	0.2287234	0.42629302
-1.0930572	0.29284164	0.42456004
-1.0964237	0.23138298	0.42231768
-1.09643	0.22807017	0.42787448
-1.106556	0.29295155	0.41184136
-1.1177264	0.2874693	0.39331403
-1.13662	0.25959367	0.36112127
-1.149429	0.18575063	0.3419439
-1.1538042	0.27455357	0.33886698
-1.1557052	0.3101852	0.34006673
-1.1573575	0.1943128	0.34209856
-1.1615704	0.24494383	0.33916655
-1.1771508	0.25560537	0.3158994
-1.1774229	0.16144578	0.3201477
-1.1782966	0.21052632	0.3233473
-1.1869873	0.14177215	0.31340668
-1.1900772	0.1086351	0.31316814
-1.1914766	0.11594203	0.31583646
-1.1941063	0.1838565	0.31613
-1.2055607	0.09399478	0.3021252
-1.219208	0.1580247	0.2843711
-1.2217717	0.08373206	0.28475982
-1.2219108	0.07103825	0.28946203
-1.2381862	0.15837105	0.26669726
-1.2553388	0.11881188	0.24495998
-1.2709914	0.102380954	0.22522981
-1.2749891	0.10120482	0.22330728
-1.2758714	0.14350797	0.22632264
-1.2816402	0.13470319	0.22262374
-1.2835623	0.044854883	0.22454843
-1.3034605	0.032994922	0.20194282
-1.3072834	0.0675	0.2006301
-1.3126545	0.15023474	0.19765091
-1.3229412	0	0.18844697
-1.3246211	0.07092199	0.19089009
-1.3287697	0.06094808	0.19054145
-1.3372848	0.11804009	0.18363744
-1.3550452	0.011527377	0.16718315
-1.3585804	0.047058824	0.1663932
-1.3660953	0.06203474	0.16314127
-1.3742499	0.0723192	0.1591166
-1.3813119	0.03521127	0.15535739
-1.3828222	0.042821158	0.15814546

-1.3829173	0.0771028	0.16231261
-1.3855312	0.02278481	0.1633227
-1.387097	0.034912717	0.16709463
-1.3889403	0.025	0.16949709
-1.3927275	0.023866348	0.16945952
-1.397988	0.07191011	0.16820978
-1.4549991	0.015748031	0.11675258
-1.465343	0.0494382	0.11073246
-1.511061	0.0024875621	0.07932228
-1.5230013	0.039647575	0.07402933
-1.5513941	0	0.059484508
-1.552668	0.019002376	0.060659133
-1.5904609	0.021686748	0.04599229
-1.5965545	0	0.04560624
-1.6127084	0.013888889	0.04053793
-1.6206751	0	0.039351746
-1.6263001	0.018181818	0.039218683
-1.6414224	0.004938272	0.035884023
-1.671025	0.006756757	0.030120201
-1.6997393	0	0.023346098
-1.7035477	0.009280742	0.02406019
-1.7140568	0.00896861	0.022031363
-1.7322456	0	0.01830028
-1.7323935	0	0.019707995
-1.7405295	0	0.019231796
-1.7791399	0.004555809	0.012871293
-1.7874334	0.004474273	0.013316043
-1.8217894	0	0.010069625
-1.9625901	0	0.0018357201
-1.9689678	0	0.0018506312
-1.9945438	0	7.74E-04
-2.0389867	0	6.07E-04
-2.0575454	0	3.77E-04
-2.1682432	0	0
-2.195096	0	0
-2.282433	0	0

NES	NOM p-val	FDR q-val
2.0951009	0	0
1.9984196	0	0
1.9103872	0	9.57E-04
1.9006883	0	7.18E-04
1.8133533	0	0.0051911105
1.7770633	0.003960396	0.0072433925
1.7681963	0	0.0069680065

1.743057	0	0.009412862
1.7026248	0.001858736	0.013124364
1.6704557	0.0017152659	0.01857349
1.5419892	0.021238938	0.06784144
1.4740847	0.01598579	0.11424046
1.4713011	0.04887218	0.10731208
1.3950478	0.053633217	0.1818762
1.3843187	0.02846975	0.18476577
1.3783195	0.047202796	0.18091872
1.3723316	0.010752688	0.17808972
1.370227	0.0859375	0.1714788
1.3316306	0.09461967	0.21435311
1.3090197	0.047531992	0.23915926
1.3033488	0.0539629	0.23712419
1.2881961	0.04553415	0.2489421
1.2743886	0.09289618	0.2613535
1.2580963	0.035117056	0.27789056
1.2547768	0.14721723	0.27231032
1.2409213	0.12099644	0.28408414
1.2315583	0.16404887	0.28960893
1.2295518	0.05582137	0.2827336
1.2237248	0.12390925	0.28191897
1.2121662	0.17041199	0.2913676
1.1905764	0.13774598	0.31831893
1.1863765	0.06844741	0.3162367
1.1624496	0.16788322	0.34967762
1.1153187	0.2962963	0.4328117
1.0994756	0.28546098	0.45288005
1.0975214	0.32617188	0.44457862
1.0873343	0.2689655	0.45535538
1.0778276	0.3041958	0.46382433
1.0714859	0.2998325	0.46553972
1.0674881	0.33333334	0.46211046
1.0461162	0.36329588	0.49745947
1.0316933	0.38502672	0.51809704
1.0142835	0.44106463	0.5447337
0.978156	0.48549324	0.61540467
0.9767348	0.5034843	0.60525095
0.9509696	0.52238804	0.65274495
0.90372443	0.6520211	0.7515568
0.878997	0.7541806	0.79213417
0.8684322	0.7274306	0.79938126
0.86447716	0.75272727	0.79241306
0.84916407	0.72998136	0.8079344
0.8248633	0.7304833	0.8407144

0.8210125	0.73846155	0.8316342
0.79720736	0.82481754	0.8567805
0.76343805	0.96383363	0.88860774
-0.54810184	0.9723992	0.99611104
-0.68805486	0.96202534	0.9690703
-0.74108034	0.9276596	0.93678147
-0.74684864	0.8503401	0.9391883
-0.74948084	0.91612905	0.944529
-0.7771898	0.8056769	0.91966826
-0.8182511	0.73275864	0.86237305
-0.83438694	0.77828056	0.8391327
-0.8349662	0.70065075	0.84567136
-0.84756863	0.7456522	0.8266378
-0.86178863	0.64859	0.8035825
-0.86404544	0.7278481	0.8063189
-0.8679314	0.7285068	0.8048749
-0.87385076	0.72421527	0.79887784
-0.8857907	0.64794815	0.7791347
-0.891666	0.6619718	0.7726656
-0.8946129	0.6808036	0.77328867
-0.9011845	0.67048055	0.76410395
-0.9368595	0.57174885	0.6796891
-0.95329225	0.56179774	0.644513
-0.95730823	0.50688076	0.64088565
-0.96372616	0.50663716	0.6310926
-0.967543	0.54252875	0.62823904
-0.9699073	0.47972974	0.6287748
-0.9739622	0.47204968	0.62463707
-0.98732775	0.458159	0.59733474
-0.99044573	0.48764044	0.59626204
-1.0022187	0.41904762	0.5734979
-1.0090861	0.42505592	0.56328595
-1.0106636	0.41379312	0.5662073
-1.0123559	0.44851258	0.56848705
-1.0139418	0.41079813	0.5704252
-1.0329998	0.4	0.5291393
-1.0384948	0.40044248	0.5224062
-1.0427084	0.35067874	0.5191995
-1.0477891	0.34945056	0.5127683
-1.0496771	0.37899545	0.5146996
-1.0615537	0.27951807	0.49204993
-1.0637795	0.33182845	0.49295706
-1.0675484	0.2823276	0.49027473
-1.0776429	0.3593429	0.47410536
-1.0778638	0.33333334	0.4797967

-1.0815443	0.3192389	0.47704926
-1.0841408	0.2764977	0.4771551
-1.0866191	0.3104213	0.47749192
-1.0868804	0.2748268	0.48339605
-1.0903164	0.32914045	0.48213112
-1.1008943	0.30462185	0.46418434
-1.1012814	0.26436782	0.47020483
-1.1081482	0.26898047	0.46125764
-1.1252172	0.26525822	0.42761302
-1.1294078	0.25934067	0.42490613
-1.131285	0.16666667	0.42758358
-1.1353538	0.27489176	0.42498472
-1.1416097	0.1492891	0.41779512
-1.1450597	0.24947146	0.4169075
-1.167177	0.23284823	0.37532148
-1.1880305	0.24579832	0.34207183
-1.1915624	0.10401891	0.34077767
-1.1924137	0.15419501	0.34497112
-1.1963573	0.22149123	0.34386742
-1.1964761	0.14379086	0.3498407
-1.2181746	0.06341463	0.31290156
-1.2298093	0.14537445	0.2978357
-1.2298423	0.15550756	0.3033686
-1.2306987	0.15822785	0.30735296
-1.2364404	0.14989293	0.30221486
-1.239155	0.09952607	0.30359262
-1.25586	0.06435644	0.27862182
-1.2759106	0.028169014	0.2518469
-1.2833436	0.1	0.24541825
-1.2858077	0.14884695	0.24664164
-1.287767	0.116071425	0.2489744
-1.2885789	0.065789476	0.25345996
-1.2974161	0.08783784	0.24516429
-1.2994522	0.06666667	0.24771728
-1.304565	0.09787234	0.24519826
-1.3108675	0.08237986	0.24077623
-1.3233137	0.11738149	0.2270799
-1.3340127	0.039906103	0.21702665
-1.3346815	0.093418255	0.22163713
-1.3362433	0.061503418	0.22552587
-1.3392566	0.025510205	0.22735406
-1.350407	0.053012047	0.21742752
-1.3990146	0.09791667	0.16265398
-1.4034576	0.021226415	0.16248503
-1.4153206	0.084070794	0.154061

-1.4413742	0.016241299	0.13070525
-1.4530885	0.0071090045	0.1228781
-1.4948131	0.038709678	0.09112078
-1.4991757	0.048140045	0.091875486
-1.5278556	0.03773585	0.0744201
-1.5330874	0.004672897	0.07472485
-1.5517699	0.002444988	0.0680871
-1.5540081	0.015021459	0.06918927
-1.5626717	0.01590909	0.06701958
-1.5905327	0.013605442	0.05518021
-1.6471674	0.01863354	0.032720827
-1.6785724	0	0.025021633
-1.6830449	0.0023419203	0.024807805
-1.7091286	0.006342495	0.018356029
-1.7209295	0.0065789474	0.017411098
-1.7218271	0.0064102565	0.01845542
-1.731426	0	0.018109044
-1.7336824	0	0.018813051
-1.7579354	0	0.0143387085
-1.7976367	0.0022271716	0.010789491
-1.8036189	0	0.010796222
-1.8681302	0	0.004927468
-1.9124799	0	0.0031998903
-1.9230728	0	0.0034370928
-1.9711725	0	0.001827725
-1.9987309	0	0.0018853751
-2.108861	0	0
-2.1446092	0	0
-2.2609155	0	0
-2.3239582	0	0

NES	NOM p-val	FDR q-val
2.2952995		0
2.0856748		0
1.980419		0
1.8807758		0
1.860278		0.0014985696
1.8063835		0.0018384674
1.8063835		0.0061322222
1.797914		0.0059145656
1.7855148		0.0069130375
1.7838296		0.0062950198
1.7622977		0.0070942733
1.7174307	0.0030165913	0.011634493
1.6029711	0.0014265336	0.045257296
1.5965824	0.013782542	0.045012865

1.5595305	0.0012091899	0.060750663
1.5526756	0.019169329	0.06083155
1.480285	0.015558699	0.11357402
1.4687185	0.019633507	0.11938269
1.4524542	0.044585988	0.12806998
1.4349476	0.027972028	0.14202093
1.3919013	0.004761905	0.18912135
1.3693419	0.05891016	0.21466164
1.3391608	0.06013986	0.2565873
1.3105128	0.073446326	0.2983431
1.310088	0.06801736	0.286727
1.3027496	0.08251748	0.29026118
1.293998	0.08240224	0.2952697
1.2918935	0.14615385	0.28816873
1.2893302	0.14190318	0.28303304
1.2838339	0.12440945	0.28251922
1.2473644	0.08093995	0.3455733
1.2441804	0.09766162	0.3413844
1.2427408	0.2032258	0.33352697
1.2400353	0.14692654	0.32879272
1.2400174	0.10377359	0.31914216
1.2379293	0.20853859	0.3143504
1.2353002	0.119444445	0.31061843
1.2324771	0.19171779	0.3073846
1.226381	0.1884058	0.3109596
1.2120689	0.06568517	0.32983887
1.1986417	0.19349845	0.3481272
1.1965958	0.18865249	0.34392548
1.193203	0.15672676	0.34193063
1.1881007	0.12039312	0.34372017
1.1372752	0.23274696	0.43995592
1.1266646	0.21160822	0.45421007
1.1066753	0.2972583	0.48992038
1.1023909	0.24537608	0.48934925
1.100744	0.26630434	0.48269722
1.0948243	0.2995896	0.48618928
1.0852985	0.33950618	0.49748316
1.075761	0.3264463	0.5092692
1.0690718	0.38102895	0.5146449
1.0682263	0.35135135	0.50678676
1.0452032	0.39384118	0.5500963
1.0409087	0.3768769	0.5499625
1.0307662	0.4226361	0.56322914
0.97346115	0.5069009	0.68715143
0.97134113	0.5116959	0.6805398

0.9590745	0.5513748	0.6982269
0.9280073	0.57452965	0.75905013
0.88874537	0.6566265	0.8381283
0.88775146	0.64106846	0.8269689
0.8866213	0.7021563	0.8166549
0.8708444	0.772784	0.8386048
0.8687237	0.6586103	0.8305466
0.8327886	0.7606461	0.8924653
0.8292845	0.7245053	0.8859613
0.8247901	0.7046632	0.8815786
0.81504875	0.7536	0.887235
0.80787754	0.81869686	0.88762724
0.79533154	0.8565517	0.895995
0.7948125	0.815407	0.8843515
0.79265934	0.77251184	0.8760536
0.7696074	0.88011694	0.89861333
0.7673551	0.83258593	0.889622
0.76132977	0.7986907	0.8862513
0.642981	0.9466248	0.97275835
-0.81430113	0.72906405	0.829538
-0.8460329	0.8167702	0.78220236
-0.8788936	0.71794873	0.7251821
-0.9220655	0.5914634	0.63313216
-0.9306663	0.6194969	0.62022835
-0.9342588	0.66	0.61870474
-0.9431181	0.5833333	0.60466856
-0.95904547	0.5162095	0.57536256
-0.9611141	0.5042254	0.5768143
-0.98143643	0.51054853	0.53579736
-1.007552	0.44200626	0.4818512
-1.0124334	0.4164038	0.47558802
-1.0184115	0.43341404	0.46787283
-1.051697	0.340694	0.40369257
-1.0529423	0.36778116	0.4062327
-1.0535054	0.32362458	0.4101944
-1.0571203	0.27586207	0.40832886
-1.057148	0.32967034	0.41360638
-1.0674142	0.35076922	0.3989684
-1.0786481	0.30612245	0.38216257
-1.0840615	0.31309903	0.37582484
-1.0847983	0.2593985	0.37956378
-1.0963498	0.32717678	0.36247343
-1.0976666	0.28	0.3651848
-1.0996503	0.25671643	0.367176
-1.1072073	0.2122449	0.3576149

-1.1209887	0.22648084	0.33775562
-1.1312646	0.24207492	0.32417193
-1.1351666	0.24362606	0.32265705
-1.1358389	0.18771331	0.32648838
-1.1398504	0.19298245	0.32466304
-1.1529876	0.25675675	0.3073719
-1.1567626	0.18711656	0.3057014
-1.1696043	0.23306233	0.28997007
-1.1767057	0.24303797	0.28387114
-1.1803617	0.0959596	0.28251377
-1.1871636	0.1292517	0.27705702
-1.1915493	0.1368421	0.27530852
-1.1916786	0.1966759	0.2797751
-1.1940672	0.17295597	0.28078374
-1.2093666	0.19240506	0.26186603
-1.2095327	0.18390805	0.26655287
-1.2228549	0.058333334	0.25171947
-1.2441792	0.18546365	0.22694263
-1.2619026	0.12426036	0.20656234
-1.2714564	0.07936508	0.19929701
-1.2733743	0.107344635	0.20077617
-1.2769704	0.1092437	0.20096332
-1.2922444	0.043165468	0.18709682
-1.2938938	0.059633028	0.18915914
-1.2970237	0.03883495	0.18915318
-1.3315421	0.005376344	0.15508693
-1.3442029	0.036437247	0.14500801
-1.3457668	0.051575933	0.14694586
-1.3466408	0.024911031	0.14987853
-1.3638034	0.0862069	0.13587168
-1.3639685	0.08421053	0.13934721
-1.3744506	0.06504065	0.13410029
-1.3791908	0.063013695	0.13413925
-1.3811396	0	0.13581544
-1.3901079	0.036544852	0.13136874
-1.4018672	0.06685237	0.12606335
-1.4088653	0.035714287	0.123936586
-1.4292561	0.088948786	0.111572765
-1.430749	0.056179777	0.11391089
-1.4394804	0.004201681	0.10944199
-1.4758179	0.04774536	0.08710015
-1.4807563	0.061333332	0.08671289
-1.5570138	0.011627907	0.04821259
-1.5639472	0.006688963	0.04776504
-1.5746267	0	0.04595688

-1.6127088	0.020151133	0.03414996
-1.6545175	0.012953368	0.024163613
-1.6715708	0	0.021719836
-1.6743852	0.008746356	0.02199131
-1.6989608	0.0028735632	0.018677283
-1.7220218	0	0.015498949
-1.8313841	0	0.004624019
-1.8564004	0	0.0039679473
-1.8842748	0.0028248588	0.0031441278
-1.9298387	0	0.0019591642
-1.933257	0	0.0019491853
-1.9595778	0	0.0016370919
-1.9600227	0.0025252525	0.0017859184
-2.0512128	0	0.0005297324
-2.0706177	0	0.0005885916
-2.1361718	0	0
-2.1903563	0	0
-2.2017376	0	0
-2.209043	0	0
-2.2397866	0	0
-2.3350873	0	0
-2.3762834	0	0
-2.4141345	0	0

**A2780 Aza HALLMARKS**

	<b>ES</b>	<b>NES</b>	<b>NOM p-val</b>
HALLMARK_INTERFERON_ALPHA_RESPONSE	0.7889692	2.8838885	0
HALLMARK_INTERFERON_GAMMA_RESPONSE	0.6938152	2.7778594	0
HALLMARK_ALLOGRAFT_REJECTION	0.5590015	2.2740579	0
HALLMARK_COMPLEMENT	0.5308548	2.1423204	0
HALLMARK_APOPTOSIS	0.5448651	2.140649	0
HALLMARK_P53_PATHWAY	0.5011984	2.032431	0
HALLMARK_TNFA_SIGNALING_VIA_NFKB	0.4724114	1.9135187	0
HALLMARK_APICAL_JUNCTION	0.4618531	1.8871479	0
HALLMARK_INFLAMMATORY_RESPONSE	0.4436383	1.7985361	0
HALLMARK_HYPOXIA	0.4428667	1.7950778	0
HALLMARK_EPITHELIAL_MESENCHYMAL_TRANSITION	0.4381596	1.7710009	0
HALLMARK_ESTROGEN_RESPONSE_LATE	0.4341979	1.76834	0
HALLMARK_UV_RESPONSE_UP	0.435586	1.7000753	0.0016694
HALLMARK_IL6_JAK_STAT3_SIGNALING	0.4689634	1.6990279	0.0073801
HALLMARK_GLYCOLYSIS	0.4192264	1.695044	0
HALLMARK_COAGULATION	0.4310144	1.6766139	0.0016367
HALLMARK_MYOGENESIS	0.398858	1.6369933	0
HALLMARK_XENOBIOTIC_METABOLISM	0.4032638	1.6199664	0.0015773
HALLMARK_ESTROGEN_RESPONSE_EARLY	0.393438	1.5905842	0.0033278
HALLMARK_BILE_ACID_METABOLISM	0.4052364	1.5349454	0.0122592
HALLMARK_KRAS_SIGNALING_DN	0.3662577	1.4793952	0.0097561
HALLMARK_REACTIVE_OXIGEN_SPECIES_PATHWAY	0.4498439	1.454991	0.0520446
HALLMARK_SPERMATOGENESIS	0.3727392	1.4405403	0.032368
HALLMARK_PEROXISOME	0.376938	1.3876896	0.0571956
HALLMARK_KRAS_SIGNALING_UP	0.2825311	1.1386402	0.2101106
HALLMARK_NOTCH_SIGNALING	0.3656346	1.0773371	0.3509128
HALLMARK_MYC_TARGETS_V2	0.3063462	1.0244031	0.3913043
HALLMARK_DNA_REPAIR	0.2587544	1.0011457	0.4545455
HALLMARK_HEME_METABOLISM	0.2394295	0.9677164	0.5297906
HALLMARK_IL2_STAT5_SIGNALING	0.2389843	0.9664661	0.4968652
HALLMARK_FATTY_ACID_METABOLISM	0.2417958	0.9472759	0.5678808
HALLMARK_PI3K_AKT_MTOR_SIGNALING	0.2562034	0.9443361	0.5478992
HALLMARK_APICAL_SURFACE	0.2800333	0.8833413	0.6164122
HALLMARK_MTORC1_SIGNALING	0.1980084	0.7964174	0.9018987
HALLMARK_ANDROGEN_RESPONSE	0.2145402	0.7861977	0.8347676
HALLMARK_ADIPOGENESIS	0.190306	0.7761073	0.9218501
HALLMARK_E2F_TARGETS	0.1848686	0.7445984	0.9490969
HALLMARK_OXIDATIVE_PHOSPHORYLATION	0.1778806	0.7287868	0.9733959
HALLMARK_WNT_BETA_CATENIN_SIGNALING	0.1992687	0.6226931	0.9669421
HALLMARK_PANCREAS_BETA_CELLS	-0.1856321	-0.6234878	0.9642147
HALLMARK_TGF_BETA_SIGNALING	-0.2142173	-0.7678472	0.8682008
HALLMARK_MYC_TARGETS_V1	-0.2029425	-0.90333	0.7573333
HALLMARK_G2M_CHECKPOINT	-0.2407448	-1.0818131	0.2528736
HALLMARK_UNFOLDED_PROTEIN_RESPONSE	-0.2809607	-1.1600798	0.1521739
HALLMARK_CHOLESTEROL_HOMEOSTASIS	-0.3127431	-1.1943445	0.1380846
HALLMARK_MITOTIC_SPINDLE	-0.2704372	-1.1981401	0.0873016
HALLMARK_ANGIOGENESIS	-0.3791263	-1.2400527	0.1740042

HALLMARK_PROTEIN_SECRETION	-0.3271197	-1.3077683	0.0471698
HALLMARK_HEDGEHOG_SIGNALING	-0.4071113	-1.3525862	0.0989899
HALLMARK_UV_RESPONSE_DN	-0.3252672	-1.3911426	0.0148148

#### A2780 Tai HALLMARKS

	ES	NES	NOM p-val
HALLMARK_MYC_TARGETS_V2	0.6787581	2.5800638	0
HALLMARK_P53_PATHWAY	0.4452488	1.9869158	0
HALLMARK_TNFA_SIGNALING_VIA_NFKB	0.4106984	1.8565073	0
HALLMARK_MYC_TARGETS_V1	0.3963627	1.7798679	0
HALLMARK_MTORC1_SIGNALING	0.3940524	1.7765771	0
HALLMARK_ESTROGEN_RESPONSE_LATE	0.3757798	1.6883924	0
HALLMARK_UV_RESPONSE_UP	0.3765825	1.6612533	0
HALLMARK_ESTROGEN_RESPONSE_EARLY	0.3527483	1.583215	0.0041322
HALLMARK_ANDROGEN_RESPONSE	0.3666259	1.5069925	0.0031348
HALLMARK_CHOLESTEROL_HOMEOSTASIS	0.3778946	1.4515526	0.0245399
HALLMARK_ANGIOGENESIS	0.4227418	1.4257736	0.0392157
HALLMARK_UNFOLDED_PROTEIN_RESPONSE	0.341902	1.4143925	0.0120846
HALLMARK_TGF_BETA_SIGNALING	0.3802531	1.3813795	0.0621469
HALLMARK_COMPLEMENT	0.3014055	1.3679516	0.0088889
HALLMARK_EPITHELIAL_MESENCHYMAL_TRANSITION	0.3035933	1.3599634	0.0082645
HALLMARK_APICAL_JUNCTION	0.2856013	1.2883583	0.012931
HALLMARK_NOTCH_SIGNALING	0.3849075	1.2808783	0.1259446
HALLMARK_MYOGENESIS	0.2722511	1.2241501	0.0522388
HALLMARK_COAGULATION	0.2781507	1.1941317	0.1281139
HALLMARK_XENOBIOTIC_METABOLISM	0.2407924	1.101778	0.1710526
HALLMARK_PANCREAS_BETA_CELLS	0.3088911	1.0627407	0.3631579
HALLMARK_DNA_REPAIR	0.220775	0.9557011	0.6007326
HALLMARK_OXIDATIVE_PHOSPHORYLATION	0.1909635	0.8762559	0.8104839
HALLMARK_HEDGEHOG_SIGNALING	0.2574751	0.8714457	0.6702413
HALLMARK_REACTIVE_OXIGEN_SPECIES_PATHWAY	-0.2355236	-0.7761272	0.8278146
HALLMARK_ALLOGRAFT_REJECTION	-0.1984997	-0.8112041	0.912
HALLMARK_PI3K_AKT_MTOR_SIGNALING	-0.2356547	-0.8818412	0.7088068
HALLMARK_INFLAMMATORY_RESPONSE	-0.2281512	-0.9275062	0.6566186
HALLMARK_KRAS_SIGNALING_DN	-0.2343808	-0.947879	0.6058589
HALLMARK_FATTY_ACID_METABOLISM	-0.2552374	-1.0084139	0.4435262
HALLMARK_PEROXISOME	-0.2781358	-1.0426717	0.384273
HALLMARK_IL6_JAK_STAT3_SIGNALING	-0.2863227	-1.044646	0.3629738
HALLMARK_WNT_BETA_CATENIN_SIGNALING	-0.3382562	-1.0809127	0.3652313
HALLMARK_KRAS_SIGNALING_UP	-0.2691431	-1.0854033	0.2652233
HALLMARK_APICAL_SURFACE	-0.3398086	-1.1004728	0.2957075
HALLMARK_APOPTOSIS	-0.2940081	-1.1699641	0.1549865
HALLMARK_E2F_TARGETS	-0.2903243	-1.1762418	0.1546667
HALLMARK_ADIPOGENESIS	-0.2906529	-1.1946088	0.1108108
HALLMARK_IL2_STAT5_SIGNALING	-0.2927832	-1.1946658	0.1015625
HALLMARK_UV_RESPONSE_DN	-0.3117031	-1.230255	0.0995733
HALLMARK_INTERFERON_GAMMA_RESPONSE	-0.3193195	-1.2894233	0.0522876
HALLMARK_BILE_ACID_METABOLISM	-0.3446075	-1.2976662	0.0673499
HALLMARK_PROTEIN_SECRETION	-0.3560059	-1.3178629	0.0707965

HALLMARK_SPERMATOGENESIS	-0.3470825	-1.3365811	0.0373563
HALLMARK_GLYCOLYSIS	-0.3436087	-1.3914347	0.0204604
HALLMARK_G2M_CHECKPOINT	-0.3636505	-1.4698635	0
HALLMARK_HEME_METABOLISM	-0.3832636	-1.5530075	0
HALLMARK_INTERFERON_ALPHA_RESPONSE	-0.4214155	-1.5587376	0.010355
HALLMARK_HYPOXIA	-0.3840161	-1.5701447	0.0013072
HALLMARK_MITOTIC_SPINDLE	-0.4502235	-1.8079808	0

**A2780 Combo HALLMARKS**

	<b>ES</b>	<b>NES</b>	<b>NOM p-val</b>
HALLMARK_INTERFERON_GAMMA_RESPONSE	0.6647782	2.741553	0
HALLMARK_INTERFERON_ALPHA_RESPONSE	0.730597	2.6907737	0
HALLMARK_P53_PATHWAY	0.5509304	2.279544	0
HALLMARK_ALLOGRAFT_REJECTION	0.5360075	2.2039478	0
HALLMARK_APOPTOSIS	0.5351341	2.1213024	0
HALLMARK_TNFA_SIGNALING_VIA_NFKB	0.4920053	2.0525148	0
HALLMARK_COMPLEMENT	0.4962462	2.0167398	0
HALLMARK_UV_RESPONSE_UP	0.4772294	1.8981924	0
HALLMARK_ESTROGEN_RESPONSE_LATE	0.445531	1.8347108	0
HALLMARK_EPITHELIAL_MESENCHYMAL_TRANSITION	0.4394255	1.8115462	0
HALLMARK_APICAL_JUNCTION	0.4282385	1.7737076	0
HALLMARK_HYPOXIA	0.4316627	1.7670722	0
HALLMARK_GLYCOLYSIS	0.4215045	1.7321985	0
HALLMARK_INFLAMMATORY_RESPONSE	0.4128624	1.7099297	0
HALLMARK_IL6_JAK_STAT3_SIGNALING	0.4615423	1.6610332	0
HALLMARK_COAGULATION	0.421966	1.6300399	0.0033223
HALLMARK_KRAS_SIGNALING_DN	0.3832589	1.5617316	0
HALLMARK_XENOBIOTIC_METABOLISM	0.3798376	1.5548887	0.0034602
HALLMARK_MYOGENESIS	0.3649015	1.4903389	0.0102564
HALLMARK_SPERMATOGENESIS	0.3773865	1.4596695	0.015411
HALLMARK_ESTROGEN_RESPONSE_EARLY	0.3563678	1.4547372	0.0068143
HALLMARK_REACTIVE_OXIGEN_SPECIES_PATHWAY	0.4430151	1.4540597	0.0476191
HALLMARK_MYC_TARGETS_V2	0.4138035	1.4045757	0.0614203
HALLMARK_DNA_REPAIR	0.3396968	1.3359178	0.0420475
HALLMARK_BILE_ACID_METABOLISM	0.3394949	1.2738972	0.09375
HALLMARK_OXIDATIVE_PHOSPHORYLATION	0.2962615	1.2218527	0.1185065
HALLMARK_PEROXISOME	0.3170131	1.1920066	0.1627907
HALLMARK_NOTCH_SIGNALING	0.3747029	1.1284338	0.2942308
HALLMARK_KRAS_SIGNALING_UP	0.2650848	1.0937908	0.2804675
HALLMARK_MTORC1_SIGNALING	0.2572809	1.0634732	0.312187
HALLMARK_E2F_TARGETS	0.2539004	1.0386355	0.3676223
HALLMARK_FATTY_ACID_METABOLISM	0.2590478	1.0336493	0.3676976
HALLMARK_PI3K_AKT_MTOR_SIGNALING	0.2682371	1.0285953	0.3853211
HALLMARK_HEME_METABOLISM	0.243017	1.0056362	0.4539363
HALLMARK_TGF_BETA_SIGNALING	0.3015198	0.9940927	0.4647619
HALLMARK_ANDROGEN_RESPONSE	0.237434	0.8749091	0.6969147
HALLMARK_APICAL_SURFACE	0.2577442	0.8135158	0.7140187
HALLMARK_MYC_TARGETS_V1	-0.1523656	-0.6772327	1
HALLMARK_WNT_BETA_CATENIN_SIGNALING	-0.2035799	-0.6881321	0.9255533

HALLMARK_PANCREAS_BETA_CELLS	-0.25523	-0.8713058	0.6626017
HALLMARK_ADIPOGENESIS	-0.1981199	-0.8838944	0.8090453
HALLMARK_IL2_STAT5_SIGNALING	-0.243591	-1.0914563	0.2171717
HALLMARK_ANGIOGENESIS	-0.3426745	-1.1022718	0.2977867
HALLMARK_CHOLESTEROL_HOMEOSTASIS	-0.2919555	-1.1068442	0.2669683
HALLMARK_G2M_CHECKPOINT	-0.2801808	-1.2622833	0.0364078
HALLMARK_MITOTIC_SPINDLE	-0.2933313	-1.3024751	0.0306905
HALLMARK_UNFOLDED_PROTEIN_RESPONSE	-0.3418585	-1.3969971	0.025
HALLMARK_UV_RESPONSE_DN	-0.3383224	-1.4418763	0.0139211
HALLMARK_PROTEIN_SECRETION	-0.3652032	-1.4671671	0.0195652
HALLMARK_HEDGEHOG_SIGNALING	-0.5230284	-1.7057412	0.006263

**FDR q-val**

0  
0  
0  
0  
0  
2.17E-04  
0.0019174  
0.0024916  
0.0048453  
0.0046166  
0.0049998  
0.0046915  
0.0087181  
0.0080954  
0.0078105  
0.0086919  
0.0129535  
0.014601  
0.0184165  
0.027712  
0.0415123  
0.0475022  
0.0505194  
0.0737504  
0.355684  
0.4719445  
0.581362  
0.6187175  
0.6852652  
0.6657178  
0.6918557  
0.677113  
0.8118258  
0.9803113  
0.9705755  
0.9608765  
0.9761387  
0.9671958  
0.9891517  
0.9935023  
1  
0.8469683  
0.383448  
0.263491  
0.2414309  
0.2839579  
0.2548821

0.1980735  
0.2103812  
0.2996042

**FDR q-val**

0  
8.00E-04  
0.0022916  
0.00302  
0.002416  
0.0063723  
0.0072437  
0.0133614  
0.0207926  
0.0343455  
0.0383276  
0.0381601  
0.0455088  
0.0473803  
0.0477814  
0.0778746  
0.0777723  
0.1179935  
0.142891  
0.2713003  
0.3434294  
0.6299687  
0.8226404  
0.7984196  
0.917913  
0.9028808  
0.7907094  
0.7066569  
0.6835837  
0.550188  
0.4827599  
0.5017837  
0.4323814  
0.4450838  
0.4301525  
0.2870893  
0.2930315  
0.2748926  
0.2978003  
0.2454179  
0.1680557  
0.1726836  
0.1622755

0.1566505  
0.1060246  
0.0551606  
0.0295731  
0.0392028  
0.0522234  
0.0058344

**FDR q-val**

0  
0  
0  
0  
2.85E-04  
4.84E-04  
6.10E-04  
0.0013583  
0.0018874  
0.0019541  
0.0031063  
0.0029538  
0.0037686  
0.0044483  
0.0075081  
0.0108326  
0.0198653  
0.0200542  
0.0330761  
0.039345  
0.0389699  
0.0375825  
0.0557166  
0.0924343  
0.1401867  
0.1909638  
0.2210209  
0.310971  
0.3640936  
0.4126311  
0.4505315  
0.4468889  
0.442876  
0.4779949  
0.4868636  
0.7363908  
0.8414006  
0.9848222  
1

0.9136125  
0.9661649  
0.3820508  
0.4034177  
0.4471104  
0.161398  
0.1435014  
0.0762727  
0.0703958  
0.0869267  
0.0163251