Supplementary Table 1

Normalized Enrichment Scores from GSEA for the Puberty Dataset

NAME	NES	NOM p-val	FDR q-val
VOXPHOS	1.60	0.04153	1.00
GATA1_WELCH	1.56	0.00000	1.00
Krebs_TCA_Cycle	1.52	0.02308	1.00
KREBS_TCA_CYCLE	1.52	0.02351	1.00
MYC_DATABASE_UP	1.49	0.03656	0.74
MYC_293_UP	1.46	0.00633	0.75
RAPAMYCIN_DOWN_PENG	1.42	0.04192	0.92
tpoPathway	1.40	0.03691	0.85
TCA	1.32	0.00000	0.79
TNFA_5ENDOTHELIAL_DOWN	-1.72	0.00177	0.48
PANCREAS_CHR12_AGUIRRE	-1.60	0.00698	1.00
KRAS_TOP100_KNOCKDOWN_CORDERO	-1.51	0.01570	1.00
CELL_ADHESION	-1.49	0.00000	1.00
PASSERINI_ADHESION	-1.48	0.03488	1.00
EMT_DOWN_JECHLINGER	-1.47	0.02006	1.00
cdc42racPathway	-1.47	0.04746	1.00
Urea cycle and metabolism of amino groups	-1.46	0.02235	0.99
BREAST_CANCER_ESTROGEN_SIGNALLING	-1.43	0.01301	0.97
BRENTANI_CELL_ADHESION	-1.41	0.01211	1.00
MOUSE_E2F1_UP	-1.40	0.02742	1.00
MOUSE_DENA_UP	-1.39	0.02194	1.00
BRENTANI_PROTEIN_MODIFICATION	-1.38	0.01289	0.94
CELL_ADHESION_MOLECULE_ACTIVITY	-1.38	0.00152	0.90
CELL_ADHESION_RECEPTOR_ACTIVITY	-1.37	0.03947	0.88
ER_DOWN_FRASOR	-1.35	0.01986	0.85

Normalized Enrichment Scores from GSEA for Lactation and Involution

NAME	NES	NOM p-val	FDR q-val
ANDROGEN_UP_NELSON	1.950	0.000	0.031
MYC_P493_TET_UP	1.804	0.000	0.052
MYC_DATABASE_UP	1.826	0.000	0.053
ANDROGEN_REGULATED_GENES	1.851	0.000	0.060
LEUCINE_DOWN_PENG	1.723	0.006	0.111
MYELIN_DOWN_LE	1.689	0.000	0.132
GLUTAMINE_DOWN_PENG	1.664	0.006	0.146
TARTE_PC	1.631	0.020	0.158
Pyruvate metabolism	1.635	0.018	0.171
Butanoate metabolism	1.578	0.035	0.207
RAPAMYCIN_DOWN_PENG	1.565	0.016	0.209
PEL_UP_KLEIN	1.578	0.010	0.226
Glycolysis_and_Gluconeogenesis	1.540	0.034	0.235
Circadian_Exercise	1.526	0.005	0.246
g1Pathway	-1.952	0.000	0.048

NAME	NES	NOM p-val	FDR q-val
RADIATION_SENSITIVITY	-1.934	0.000	0.030
raccycdPathway	-1.925	0.000	0.025
CHEN_LUNG_SURVIVAL	-1.901	0.000	0.027
MOUSE_ACOX1_UP	-1.766	0.000	0.126
cellcyclePathway	-1.739	0.009	0.138
DRUG_RESISTANCE_AND_METABOLISM	-1.728	0.000	0.137
KRAS_TOP100_KNOCKDOWN_CORDERO	-1.698	0.002	0.161
P53_UP_KANNAN	-1.689	0.005	0.157
BRENTANI_TRANSCRIPTION_FACTORS	-1.679	0.000	0.156
COPD_DOWN_NING	-1.629	0.004	0.230
TNFA_5ENDOTHELIAL_DOWN	-1.615	0.002	0.240
p53hypoxiaPathway	-1.614	0.017	0.224
BRENTANI_IMMUNE_FUNCTION	-1.612	0.023	0.211
ICHIBA_GVHD	-1.611	0.026	0.199
ER_DOWN_FRASOR	-1.600	0.000	0.205
TNFA_5ENDOTHELIAL_UP	-1.595	0.004	0.201
RAS_STROMA_DOWN_CROONQUIST	-1.590	0.016	0.199
PASSERINI_APOPTOSIS	-1.586	0.005	0.195
NFKB_UP_HINATA	-1.571	0.015	0.213
il6Pathway	-1.558	0.042	0.226
IL6_BROCKE	-1.557	0.003	0.217
CBF_MYH_ROSS	-1.557	0.044	0.208
BRENTANI_PROTEIN_MODIFICATION	-1.557	0.003	0.200
IL6_STROMA_UP_CROONQUIST	-1.556	0.019	0.192
BMYB_MORPHOLINO_UP_SHEPARD	-1.546	0.000	0.199
ccr5Pathway	-1.533	0.019	0.214
CELL_MOTILITY	-1.524	0.024	0.221
SURVIVAL_ALL_POOR	-1.520	0.058	0.220
CELL_CYCLE_REGULATOR	-1.519	0.044	0.214
EMT_DOWN_JECHLINGER	-1.519	0.036	0.207
hcmvPathway	-1.511	0.029	0.215
MOUSE_E2F1_UP	-1.506	0.056	0.217
BREAST_CANCER_ESTROGEN_SIGNALLING	-1.505	0.010	0.212
EPITHELIAL_DOWN_ZUCCHI	-1.503	0.022	0.210
metPathway	-1.502	0.032	0.205
JISON_STRESS	-1.502	0.021	0.200
pdgfPathway	-1.496	0.028	0.206
IFNB_HT1080_UP	-1.493	0.022	0.205
Fatty acid metabolism	-1.491	0.011	0.202
p38mapkPathway	-1.487	0.051	0.202
Apoptosis	-1.484	0.014	0.202
rasPathway	-1.484	0.043	0.198
MOUSE_DENA_UP	-1.484	0.098	0.194
Fatty_Acid_Degradation	-1.482	0.034	0.192
MLL_FUSION_ROSS	-1.480	0.048	0.190
MGUS_MM_DAVIES	-1.475	0.048	0.194
Prostaglandin_synthesis_regulation	-1.461	0.057	0.210
HYPOXIA_UP_MANALO	-1.450	0.013	0.223
insulinPathway	-1.448	0.045	0.221
MOUSE_MYC_TGFA_UP	-1.439	0.017	0.231
TGF_Beta_Signaling_Pathway	-1.436	0.074	0.232

NAME	NES	NOM p-val	FDR q-val
P53_SIGNALLING	-1.433	0.005	0.232
hivnefPathway	-1.431	0.029	0.231
IFNG_HT1080_UP	-1.429	0.048	0.231
RAPAMYCIN_UP_PENG	-1.429	0.037	0.227
SIG_BCR_SIGNALING_PATHWAY	-1.428	0.043	0.223
TGF_BETA_SIGNALING_PATHWAY	-1.421	0.076	0.230
TH_UP_KIM	-1.421	0.069	0.227
fcer1Pathway	-1.417	0.019	0.229
PROTEASOME_DEGRADATION	-1.414	0.124	0.230
IFNA_HEPATO_UP	-1.412	0.070	0.230
Proteasome_Degradation	-1.409	0.137	0.231
Smooth_muscle_contraction	-1.407	0.035	0.230
egfPathway	-1.407	0.078	0.226
GO_ROS	-1.406	0.075	0.224
G_Protein_Signaling	-1.402	0.037	0.228
mapkPathway	-1.402	0.046	0.225
cxcr4Pathway	-1.400	0.063	0.224
igf1Pathway	-1.399	0.071	0.223
HUMAN_CD34_ENRICHED_TF	-1.396	0.028	0.224
SA_B_CELL_RECEPTOR_COMPLEXES	-1.395	0.083	0.222
CELL_GROWTH_AND_OR_MAINTENANCE	-1.393	0.048	0.221
PASSERINI_TRANSCRIPTION	-1.393	0.061	0.219
CELL_SURFACE_RECEPTOR_LINKED_SIGNAL_TRANSDUCTION	-1.393	0.044	0.217
tnfr1Pathway	-1.391	0.090	0.216
PASSERINI_ADHESION	-1.389	0.071	0.216
TUMOR_SUPRESSOR	-1.389	0.071	0.213
PASSERINI_INFLAMMATION	-1.388	0.112	0.213
CBF_ROSS	-1.374	0.040	0.229
GOLDRATH_MEMORY	-1.372	0.093	0.229
OKUMURA_MC_LPS	-1.372	0.023	0.226
keratinocytePathway	-1.367	0.085	0.231
ceramidePathway	-1.366	0.081	0.229
MOUSE_MYC_E2F1_UP	-1.360	0.101	0.236
calcineurinPathway	-1.360	0.067	0.233
vipPathway	-1.357	0.057	0.234
MOUSE_CIP_UP	-1.356	0.053	0.233
SIG_CHEMOTAXIS	-1.353	0.107	0.236
GNATENKO_PLATELET	-1.352	0.045	0.233
tcrPathway	-1.352	0.063	0.231
IFNG_5ENDOTHELIAL_UP	-1.348	0.107	0.234
COPD_UP_NING	-1.339	0.106	0.245
gsk3Pathway	-1.337	0.075	0.245
IFNA_HT1080_UP	-1.337	0.109	0.243
TARTE_BCELL	-1.337	0.090	0.241
tpoPathway	-1.337	0.120	0.239
stressPathway	-1.335	0.117	0.238
ALMM_UP_ABRAHAM	-1.334	0.155	0.237
HADDAD_10VS7	-1.329	0.011	0.242
ZF_NEG_REG_OF_CELL_PROLIF	-1.325	0.035	0.245
ngfPathway	-1.324	0.101	0.244
EMT_UP_JECHLINGER	-1.323	0.133	0.244

NAME	NES	NOM p-val	FDR q-val
bcrPathway	-1.317	0.102	0.250
FETAL_LIVER_HS_ENRICHED_TF	-1.316	0.060	0.250
mcalpainPathway	-1.315	0.103	0.248