A
BAMS
Stage I
Stage II
Stage III
ns
****
**
T1
T2
T3
***
Kruskal−Wallis, P = 1.1e−08
G1
G2
G3
G4
B
cophenetic
dispersion
C
tSNE1
tSNE2
Cluster
C1
C2
C3
D
negative
positive
−log10 (P-value)
correlation
GLYCINE_SERINE_AND_THREONINE_METABOLISM
BETA_ALANINE_METABOLISM
PPAR_SIGNALING_PATHWAY
TRYPTOPHAN_METABOLISM
FATTY_ACID_METABOLISM
RETINOL_METABOLISM
DRUG_METABOLISM_CYTOCHROME_P450
BUTANOATE_METABOLISM
VALINE_LEUCINE_AND_ISOLEUCINE_DEGRADATION
PROPANOATE_METABOLISM
METABOLISM_OF_XENOBIOTICS_BY_CYTOCHROME_P45
BIOSYNTHESIS_OF_UNSATURATED_FATTY_ACIDS
LINOLEIC_ACID_METABOLISM
MYC_TARGETS_V1
G2M_CHECKPOINT
MYC_TARGETS_V2
E2F_TARGETS
CELL_CYCLE
E
ICGC-LIRI
Cluster
C1
C2
C3
DNA_REPLICATION
STEROID_BIOSYNTHESIS
G2M_CHECKPOINT
TERPENOID_BACKBONE_BIOSYNTHESIS
RIBOFLAVIN_METABOLISM
RIBOSOME
E2F_TARGETS
MYC_TARGETS_V2
PROTEIN_EXPORT
MISMATCH_REPAIR
CELL_CYCLE
NON_HOMOLOGOUS_END_JOINING
CHOLESTEROL_HOMEOSTASIS
N_GLYCAN_BIOSYNTHESIS
UNFOLDED_PROTEIN_RESPONSE
FATTY_ACID_METABOLISM
BETA_ALANINE_METABOLISM
GLYCINE_SERINE_AND_THREONINE_METABOLISM
ASCORBATE_AND_ALDARATE_METABOLISM
TRYPTOPHAN_METABOLISM
METABOLISM_OF_XENOBIOTICS_BY_CYTOCHROME_P450
BUTANOATE_METABOLISM
RETINOL_METABOLISM
TYROSINE_METABOLISM
DRUG_METABOLISM_CYTOCHROME_P450
PHENYLALANINE_METABOLISM
HISTIDINE_METABOLISM
DRUG_METABOLISM_OTHER_ENZYMES
PEROXISOME
XENOBIOTIC_METABOLISM
EPITHELIAL_MESENCHYMAL_TRANSITION
GLYCOSAMINOGLYCAN_BIOSYNTHESIS_CHONDROITIN_SULFATE
FC_GAMMA_R_MEDIATED_PHAGOCYTOSIS
HEDGEHOG_SIGNALING
NOTCH_SIGNALING
PANCREATIC_CANCER
NEUROTROPHIN_SIGNALING_PATHWAY
VASOPRESSIN_REGULATED_WATER_REABSORPTION
REGULATION_OF_ACTIN_CYTOSKELETON
O_GLYCAN_BIOSYNTHESIS
DILATED_CARDIOMYOPATHY
FOCAL_ADHESION
AXON_GUIDANCE
SMALL_CELL_LUNG_CANCER
PATHWAYS_IN_CANCER