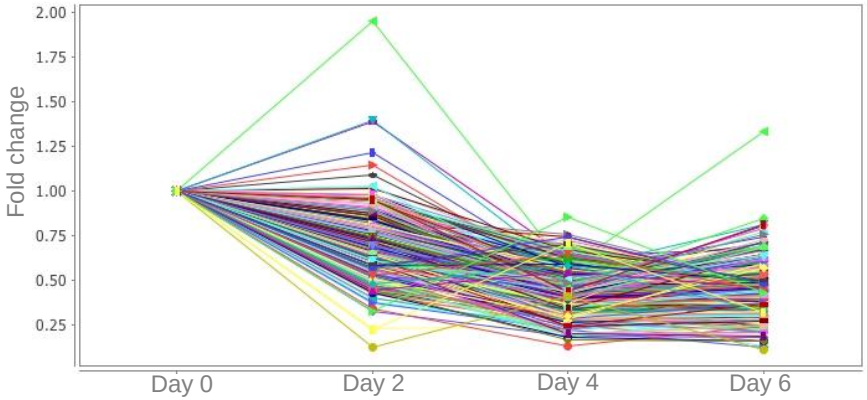
A Early Responding Genes (Temporal Profile Cluster 1)



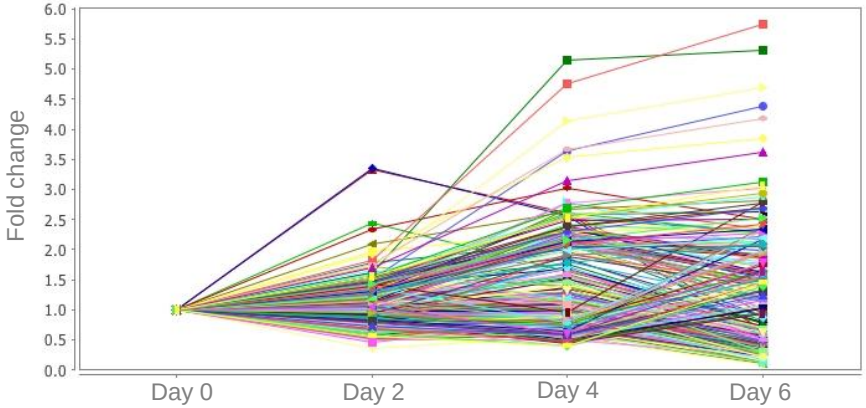
Gene Set Overlap Analysis

Gene Set Name [# Genes (K)]	Description	# Genes in Overlap (k)	p value
KEGG_HEDGEHOG_SIGNALING_PATHWAY [56]	Hedgehog signaling pathway	7	$9.19 e^{-3}$
KEGG_WNT_SIGNALING_PATHWAY [151]	Wnt signaling pathway	13	$1.2 e^{-2}$
REACTOME_AKT_PHOSPHORYLATES_TARGETS_IN_THE_CYTOSOL [14]	Genes involved in AKT phosphorylates targets in the cytosol	3	$1.97 e^{-2}$
KEGG_GLYCOSPHINGOLOIPID_BIOSYNTHESIS_LACTO_AND_NEOLACTO_SERIES [26]	Glycosphingolipid biosynthesis – lacto and neolacto series	4	$2.3 e^{-2}$
SA_FAS_SIGNALING [6]	The TNF-type receptor Fas induces apoptosis on ligand binding	2	$2.42 e^{-2}$
BIOCARTA_BCELLSURVIVAL_PATHWAY [16]	B cell Survival Pathway	3	$2.84 e^{-2}$
ST_TUMOR_NECROSIS_FACTOR_PATHWAY [28]	Tumor Necrosis Factor Pathway	4	$2.95 e^{-2}$
SA_G2_AND_M_PHASES [7]	Cdc25 activates cdc2/cyclin B complex to induce the G2/M transition	2	$3.3 e^{-2}$
REACTOME_REGULATION_OF_LIPID_METABOLISM_BY_PEROXISOME_PROLIFERATOR_ACTIVATED_RECEPTOR_ALPHA [61]	Genes involved in regulation of lipid metabolism by peroxisome proliferator-activated receptor alpha (PPARalpha)	6	$4.44 e^{-2}$
REACTOME-PI3K-AKT-SIGNALING [37]	Genes involved in PI3K/AKT signaling	4	$7.09 e^{-2}$

Genes underlying the enrichment signature

GSK3B, CSNK1A1, PRKACB, PRKX, CSNK1E, CSNK1G1, HHIP, CREBBP, TBL1X, TBL1XR1, CCND2, AXIN2, LRP6, ROCK1, PPP2R5E, CDKN1A, PDPK1, B3GALT5, FUT9, FUT4, ST3GAL4, CASP3, CFLAR, FOS, ZBTB7A, NR2C2, RALBP1, CDC25A, NCOR1, PPARA, FADS2, IRS2

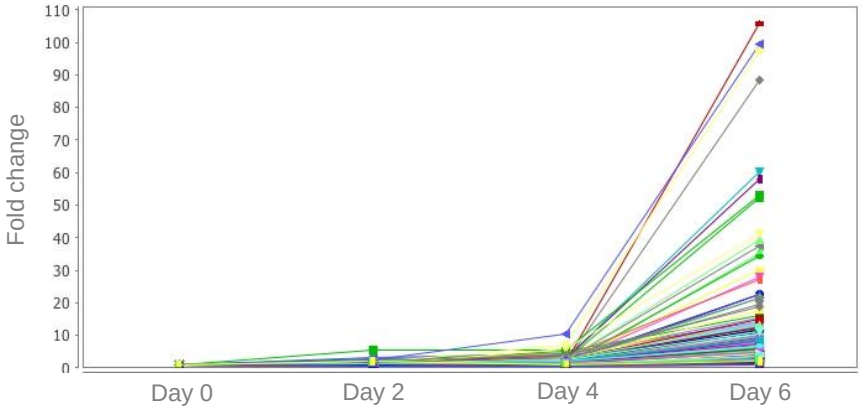
B Mid-to-Late Responding Genes (Temporal Profile Cluster 2)



Gene Set Name [# Genes (K)]	Description	# Genes in Overlap (k)	p value
KEGG_GLYCOSPHINGOLIPID_BIOSYNTHESIS_LACTO_AND_NEOLACTO_SERIES [26]	Glycosphingolipid biosynthesis – lacto and neolacto series	6	$2.2 e^{-4}$
REACTOME_DOPAMINE_NEUROTRANSMITTER_RELEASE_CYCLE [14]	Genes involved in dopamine neurotransmitter release cycle	4	$1.11 e^{-3}$
REACTOME_SEROTONIN_NEUROTRANSMITTER_RELEASE_CYCLE [14]	Genes involved in serotonin neurotransmitter release cycle	4	$1.11 e^{-3}$
REACTOME_GLUTAMATE_NEUROTRANSMITTER_RELEASE_CYCLE [28]	Genes involved in glutamate neurotransmitter release cycle	4	$1.47 e^{-3}$
REACTOME_NEUROTRANSMITTER_RELEASE_CYCLE [28]	Genes involved in neurotransmitter release cycle	5	$2.55 e^{-3}$
REACTOME_ACETYLCHOLINE_NEUROTRANSMITTER_RELEASE_CYCLE [11]	Genes involved in acetylcholine neurotransmitter release cycle	3	$5.66 e^{-3}$
REACTOME_NOREPINEPHRINE_NEUROTRANSMITTER_RELEASE_CYCLE [12]	Genes involved in norepinephrine neurotransmitter release cycle	3	$7.36 e^{-3}$
KEGG_CIRCADIAN_RHYTHM_MAMMAL [13]	Circadian rhythm – mammal	3	$9.32 e^{-3}$
KEGG_GLYCOSPHINGOLIPID_BIOSYNTHESIS_GLOBO_SERIES [14]	Glycosphingolipid biosynthesis – globo series	3	$1.16 e^{-2}$
REACTOME_CALCITONIN_LIKE_LIGAND_RECEPTORS [10]	Genes involved in calcitonin-like ligand receptors	2	$4.65 e^{-2}$

FUT2, FUT9, ABO, B3GNT5, FUT4, ST3GAL6, SYT1, SNAP25, RIMS1, DDC, SLC1A1, NR1D1, PER2, PER3, HEXB, RAMP1, RAMP2

C Late Responding Genes (Temporal Profile Cluster 3)



Gene Set Name [# Genes (K)]	Description	# Genes in Overlap (k)	p value
REACTOME_CHEMOKINE_RECEPTORS_BIND_CHEMOKINES [55]	Genes involved in chemokine receptors	18	$5.33 e^{-9}$
BIOCARTA_LAIR_PATHWAY [17]	Cells and molecules involved in local acute inflammatory response	8	$4.6 e^{-6}$
BIOCARTA_CLASSIC_PATHWAY [14]	Classical complement pathway	7	$1.14 e^{-5}$
BIOCARTA_GRANULOCYTES_PATHWAY [14]	Adhesion and diapedesis of granulocytes	7	$1.14 e^{-5}$
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION [267]	Cytokine-cytokine receptor interaction	36	$2.31 e^{-5}$
BIOCARTA_MONOCYTE_PATHWAY [11]	Monocyte and its surface molecules	6	$2.67 e^{-5}$
KEGG_COMPLEMENT_AND_COAGULATION_CASCADES [69]	Complement and coagulation cascades	15	$2.97 e^{-5}$
REACTOME_PEPTIDE_LIGAND_BINDING_RECEPTORS [173]	Genes involved in peptide ligand-binding receptors	26	$5.21 e^{-5}$
KEGG_CHEMOKINE_SIGNALING_PATHWAY [190]	Chemokine signaling pathway	27	$1.01 e^{-4}$
BIOCARTA_COMP_PATHWAY [19]	Complement pathway	7	$1.25 e^{-4}$

CXCL1, CXCL2, CCL11, CCL2, CCL7, CXCL10, CXCL9, CCR5, CCR1, CCL19, CCR2, CXCL13, CXCL16, CXCL3, CXCL5, CXCR7