



B Genes / Gene sets activated in the absence of ROS

Gene Set Name [# Genes (K)]	Description	# Genes in Overlap (k)	k/K	p value
REACTOME_NF_KB_IS_ACTIVATED_AND_SIGNALNALS_SURVIVAL [10]	Genes involved in NF-kB is activated and signals survival	2	█	8.84 e ⁻⁴
REACTOME_P75NTR_RECRUITS_SIGNALLING_COMPLEXES [10]	Genes involved in p75NTR recruits signalling complexes	2	█	8.84 e ⁻⁴
REACTOME_P75NTR_SIGNALS_VIA_NFKB [13]	Genes involved in p75NTR signals via NF-kB	2	█	1.52 e ⁻³
REACTOME_SIGNALLING_BY_NGF [215]	Genes involved in Signalling by NGF	5	█	2.61 e ⁻³
BIOCARTA_NFKB_PATHWAY [23]	NF-kB Signaling Pathway	2	█	4.79 e ⁻³
REACTOME_P75_NTR_RECEPTOR_MEDIATED_SIGNALLING [82]	Genes involved in p75 NTR receptor-mediated signalling	3	█	5.95 e ⁻³
KEGG_MAPK_SIGNALING_PATHWAY [267]	MAPK signaling pathway	5	█	6.59 e ⁻³
KEGG_APOPTOSIS [88]	Apoptosis	3	█	7.23 e ⁻³
BIOCARTA_IL1R_PATHWAY [33]	Signal transduction through IL1R	2	█	9.72 e ⁻³
REACTOME_PI3K_AKT_SIGNALLING [37]	Genes involved in PI3K/AKT signalling	2	█	1.21 e ⁻²

Genes underlying the enrichment signature

IRAK1
SQSTM1
RASGRF1
NR4A1
CDKN1A
IL1R1
GADD45B
DDIT3
CASP7

C Genes / Gene sets suppressed in the absence of ROS

Gene Set Name [# Genes (K)]	Description	# Genes in Overlap (k)	k/K	p value
KEGG_OTHER_GLYCAN_DEGRADATION [16]	Other glycan degradation	3	█	7.57 e ⁻⁴
REACTOME_UNWINDING_OF_DNA [11]	Genes involved in Unwinding of DNA	2	█	6.84 e ⁻³
SA_PROGRAMMED_CELL_DEATH [12]	Programmed cell death, or apoptosis, eliminates damaged or unneeded cells.	2	█	8.15 e ⁻³
KEGG_GLYCOSPHINGOLIPID_BIOSYNTHESIS_GLOBO_SERIES [14]	Glycosphingolipid biosynthesis - globo series	2	█	1.11 e ⁻²
KEGG_GLYCOSPHINGOLIPID_BIOSYNTHESIS_GANGLIO_SERIES [15]	Glycosphingolipid biosynthesis - ganglio series	2	█	1.27 e ⁻²
KEGG_AMINO_SUGAR_AND_NUCLEOTIDE_SUGAR_AR_METABOLISM [44]	Amino sugar and nucleotide sugar metabolism	3	█	1.42 e ⁻²
BIOCARTA_MCM_PATHWAY [18]	CDK Regulation of DNA Replication	2	█	1.81 e ⁻²
REACTOME_SYNTHESIS_AND_INTERCONVERSION_OF_NUCLEOTIDE_DI_AND_TRIPHOSPHATES [18]	Genes involved in Synthesis and interconversion of nucleotide di- and triphosphates	2	█	1.81 e ⁻²
KEGG_GLYCOSAMINOGLYCAN_DEGRADATION [21]	Glycosaminoglycan degradation	2	█	2.42 e ⁻²
BIOCARTA_P53HYPOXIA_PATHWAY [23]	Hypoxia and p53 in the Cardiovascular system	2	█	2.88 e ⁻²

Genes underlying the enrichment signature

HEXA
HEXB
NEU1
MCM2
MCM6
BAX
BCL2L11
GNPDA1
GUK1
TXNRD1
IGFBP3