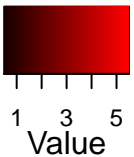
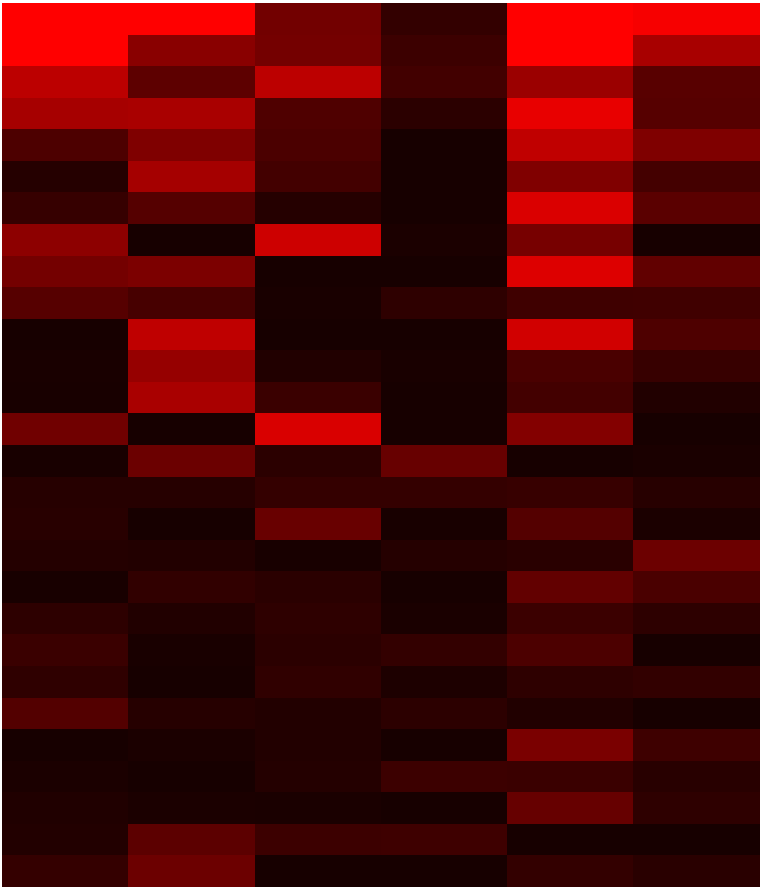


Color Key



GAGE Up-test: $-\log_{10}(\text{p-value})$



DCIS_1

DCIS_2

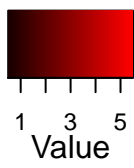
DCIS_3

DCIS_4

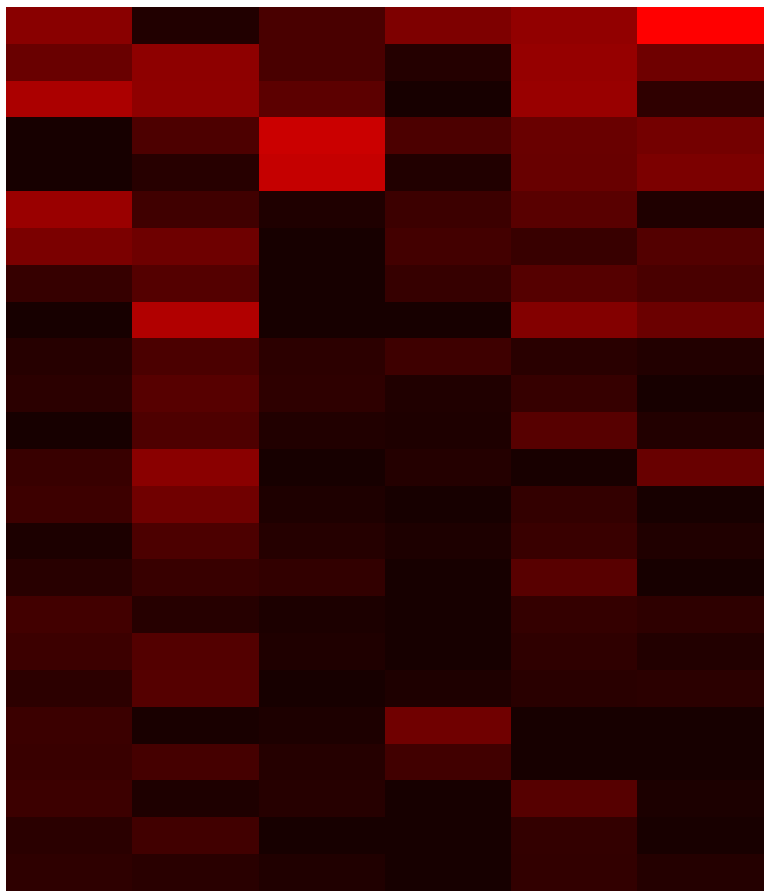
DCIS_5

DCIS_6

Color Key



3AGE Down-test: $-\log_{10}(\text{p-value})$



DCIS_1

DCIS_2

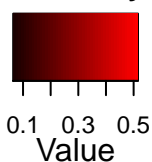
DCIS_3

DCIS_4

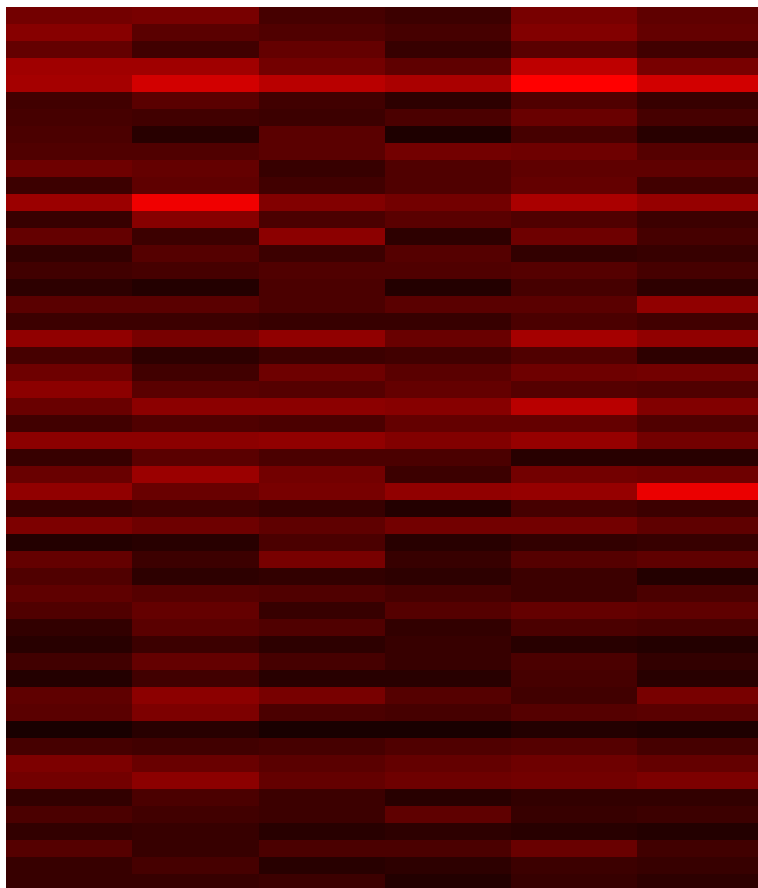
DCIS_5

DCIS_6

Color Key



GAGE test statistics



hsa04141 Protein processing in endoplasmic reticulum
hsa00190 Oxidative phosphorylation
hsa04142 Lysosome
hsa03050 Proteasome
hsa03060 Protein export
hsa04110 Cell cycle
hsa04120 Ubiquitin mediated proteolysis
hsa04145 Phagosome
hsa03040 Spliceosome
hsa00510 N-Glycan biosynthesis
hsa03013 RNA transport
hsa01040 Biosynthesis of unsaturated fatty acids
hsa03008 Ribosome biogenesis in eukaryotes
hsa04612 Antigen processing and presentation
hsa00240 Pyrimidine metabolism
hsa00520 Amino sugar and nucleotide metabolism
hsa04620 Toll-like receptor signaling pathway
hsa00500 Starch and sucrose metabolism
hsa04114 Oocyte meiosis
hsa00511 Other glycan degradation
hsa04622 RIG-I-like receptor signaling pathway
hsa04966 Collecting duct acid secretion
hsa00860 Porphyrin and chlorophyll metabolism
hsa03430 Mismatch repair
hsa03030 DNA replication
hsa04140 Regulation of autophagy
hsa04115 p53 signaling pathway
hsa00020 Citrate cycle (TCA cycle)
hsa03010 Ribosome
hsa04020 Calcium signaling pathway
hsa04740 Olfactory transduction
hsa04510 Focal adhesion
hsa04512 ECM-receptor interaction
hsa04630 Jak-STAT signaling pathway
hsa04640 Hematopoietic cell lineage
hsa00590 Arachidonic acid metabolism
hsa04514 Cell adhesion molecules
hsa04270 Vascular smooth muscle contractility
hsa00982 Drug metabolism - cytochrome P450
hsa04916 Melanogenesis
hsa04672 Intestinal immune network
hsa00830 Retinol metabolism
hsa04810 Regulation of actin cytoskeleton
hsa04976 Bile secretion
hsa04744 Phototransduction
hsa00591 Linoleic acid metabolism
hsa04666 Fc gamma R-mediated immunity
hsa04520 Adherens junction
hsa04310 Wnt signaling pathway
hsa04340 Hedgehog signaling pathway
hsa04070 Phosphatidylinositol signaling system
hsa04970 Salivary secretion

DCIS_1

DCIS_2

DCIS_3

DCIS_4

DCIS_5

DCIS_6