

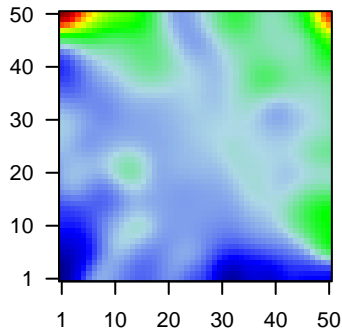
# GW\_188

## Global Summary

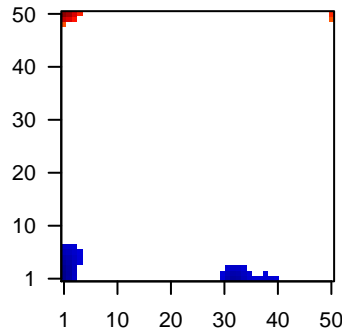
%DE = 0.13  
 # genes with fdr < 0.2 = 1550 ( 910 + / 640 - )  
 # genes with fdr < 0.1 = 1261 ( 761 + / 500 - )  
 # genes with fdr < 0.05 = 984 ( 606 + / 378 - )  
 # genes with fdr < 0.01 = 724 ( 469 + / 255 - )  
 # genes in genesets = 16332

<FC> = 0  
 <shrinkage-t> = 0  
 <p-value> = 0.11  
 <fdr> = 0.87

Profile



Regulated Spots



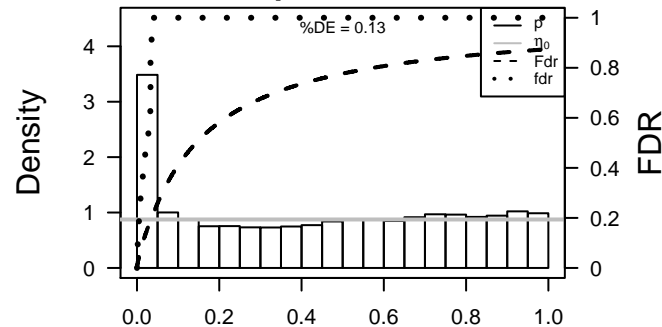
## Global Genelist

| Rank | ID     | log(FC) | fdr p-value | Description Metagene   |
|------|--------|---------|-------------|--|
| 1    | 10057  | 1.24    | 2e-16 3e-14 | 50 x 50 ATP-binding cassette, sub-family C (CFTR/MRP), member 5        |
| 2    | 79852  | 1.39    | 2e-16 3e-14 | 3 x 50 epoxide hydrolase 3 [Source:HGNC Symbol;Acc:23760]              |
| 3    | 8745   | 1.56    | 2e-16 3e-14 | 50 x 50 ADAM metallopeptidase domain 23 [Source:HGNC Symbol;A          |
| 4    | 124    | 1.36    | 2e-16 3e-14 | 50 x 11 alcohol dehydrogenase 1A (class I), alpha polypeptide [Sourc   |
| 5    | 57016  | 1.47    | 2e-16 3e-14 | 1 x 50 aldo-keto reductase family 1, member B10 (aldose reductase      |
| 6    | 1646   | 1.46    | 2e-16 3e-14 | 13 x 50 aldo-keto reductase family 1, member C2 [Source:HGNC Syr       |
| 7    | 8644   | 2.62    | 2e-16 3e-14 | 1 x 50 aldo-keto reductase family 1, member C3 [Source:HGNC Syr        |
| 8    | 1109   | 2.61    | 2e-16 3e-14 | 13 x 50 aldo-keto reductase family 1, member C4 [Source:HGNC Syr       |
| 9    | 216    | 1.61    | 2e-16 3e-14 | 50 x 50 aldehyde dehydrogenase 1 family, member A1 [Source:HGNC        |
| 10   | 218    | 2.68    | 2e-16 3e-14 | 1 x 50 aldehyde dehydrogenase 3 family, member A1 [Source:HGNC         |
| 11   | 347    | 1.65    | 2e-16 3e-14 | 50 x 7 apolipoprotein D [Source:HGNC Symbol;Acc:612]                   |
| 12   | 9823   | 1.36    | 2e-16 3e-14 | 7 x 1 armadillo repeat containing, X-linked 2 [Source:HGNC Symb        |
| 13   | 84707  | 1.76    | 2e-16 3e-14 | 50 x 48 brain expressed X-linked 2 [Source:HGNC Symbol;Acc:3093        |
| 14   | 56271  | 1.54    | 2e-16 3e-14 | 50 x 12 brain expressed, X-linked 4 [Source:HGNC Symbol;Acc:2547       |
| 15   | 655    | 1.44    | 2e-16 3e-14 | 50 x 50 bone morphogenetic protein 7 [Source:HGNC Symbol;Acc:1C        |
| 16   | 64207  | 1.24    | 2e-16 3e-14 | 50 x 40 interferon regulatory factor 2 binding protein-like [Source:HG |
| 17   | 260436 | -1.13   | 2e-16 3e-14 | 50 x 1 follicular dendritic cell secreted protein [Source:HGNC Symbc   |
| 18   | 375791 | 1.43    | 2e-16 3e-14 | 1 x 50 chromosome 9 open reading frame 169 [Source:HGNC Symbt          |
| 19   | 6364   | -1.18   | 2e-16 3e-14 | 46 x 1 chemokine (C-C motif) ligand 20 [Source:HGNC Symbol;Acc         |
| 20   | 414062 | -1.4    | 2e-16 3e-14 | 1 x 1 chemokine (C-C motif) ligand 3-like 3 [Source:HGNC Symbc         |

## Global Geneset Analysis

| Rank                  | GSZ    | p-value | #all | Geneset  |
|-----------------------|--------|---------|------|--|
| <i>Overexpressed</i>  |        |         |      |  |
| 1                     | 21.04  | NULL    | 135  | H.Tiss WIRTH_Mucosa                                |
| 2                     | 10.85  | NULL    | 8    | GSEA C2JLUCDX2_TARGETS_DN                          |
| 3                     | 8.94   | NULL    | 12   | BP cellular aldehyde metabolic process             |
| 4                     | 8.8    | NULL    | 16   | GSEA C2CROMER_TUMORIGENESIS_DN                     |
| 5                     | 8.59   | NULL    | 914  | Chr Chr 3  |
| 6                     | 8.46   | NULL    | 7    | GSEA C2MCCOLLUM_GELDANAMYCIN_RESISTANCE_DN         |
| 7                     | 8.4    | NULL    | 16   | GSEA C2WANG_BARRETTS_ESOPHAGUS_DN                  |
| 8                     | 7.91   | NULL    | 9    | GSEA C2NIKOLSKY_BREAST_CANCER_17P11_AMPLICON       |
| 9                     | 7.32   | NULL    | 20   | MF glutathione transferase activity                |
| 10                    | 7.16   | NULL    | 15   | GSEA C2PYEON_CANCER_HEAD_AND_NECK_VS_CERVICAL_DN   |
| 11                    | 7.13   | NULL    | 9    | GSEA C2REACTOME_ETHANOL_OXIDATION                  |
| 12                    | 7.11   | NULL    | 434  | BP oxidation-reduction process                     |
| 13                    | 7.09   | NULL    | 34   | Chr Chr Y  |
| 14                    | 7.04   | NULL    | 34   | BP glutathione metabolic process                   |
| 15                    | 6.8    | NULL    | 296  | MF oxidoreductase activity                         |
| 16                    | 6.62   | NULL    | 918  | Chr Chr 17   |
| 17                    | 6.61   | NULL    | 53   | BP keratinocyte differentiation                    |
| 18                    | 6.59   | NULL    | 38   | BP epithelial cell differentiation                 |
| 19                    | 6.52   | NULL    | 18   | MF acyl-CoA dehydrogenase activity                 |
| 20                    | 6.48   | NULL    | 25   | BP glutathione derivative biosynthetic process     |
| <i>Underexpressed</i> |        |         |      |  |
| 1                     | -10.56 | NULL    | 51   | BP type I interferon signaling pathway             |
| 2                     | -9.35  | NULL    | 312  | BP immune response                                 |
| 3                     | -9.35  | NULL    | 16   | GSEA C2MOSERLE_IFNA_RESPONSE                       |
| 4                     | -9.3   | NULL    | 717  | Chr Chr 16   |
| 5                     | -9.29  | NULL    | 123  | BP defense response to virus                       |
| 6                     | -8.81  | NULL    | 16   | GSEA C2EINAV_INTERFERON_SIGNATURE_IN_CANCER        |
| 7                     | -8.4   | NULL    | 13   | GSEA C2BOWIE_RESPONSE_TO_TAMOXIFEN                 |
| 8                     | -8.36  | NULL    | 204  | BP cytokine-mediated signaling pathway             |
| 9                     | -7.97  | NULL    | 16   | GSEA C2ZHANG_INTERFERON_RESPONSE                   |
| 10                    | -7.86  | NULL    | 15   | GSEA C2CROMER_TUMORIGENESIS_UP                     |
| 11                    | -7.69  | NULL    | 1720 | Chr Chr 1  |
| 12                    | -7.31  | NULL    | 60   | BP interferon-gamma-mediated signaling pathway     |
| 13                    | -7.14  | NULL    | 119  | Lymphoma OSOLOWSKI_green total                     |
| 14                    | -7.12  | NULL    | 553  | Cancer Lembcke_Colonc Inflammation                 |
| 15                    | -7.07  | NULL    | 4    | MMML C2SCIEJ_MMML_47                               |
| 16                    | -7.06  | NULL    | 16   | GSEA C2UROSEVIC_RESPONSE_TO_IMIQUIMOD              |
| 17                    | -7.05  | NULL    | 8    | GSEA C2ROETH_TERT_TARGETS_UP                       |
| 18                    | -7.02  | NULL    | 31   | BP negative regulation of viral genome replication |
| 19                    | -6.93  | NULL    | 265  | Glio wilscher_GBM_Verhaak-CL_expression_B_up       |
| 20                    | -6.93  | NULL    | 265  | Glio wilscher_GBM_Verhaak-MES_expression_B_up      |

p-values



# GW\_188

## Local Summary

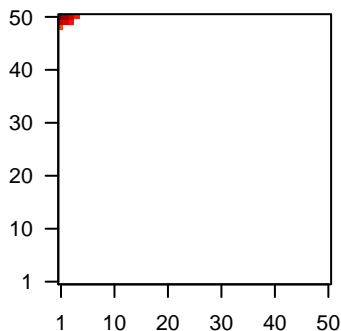
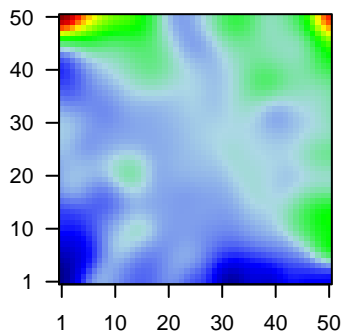
%DE = 0.91  
 # metagenes = 8  
 # genes = 154  
 # genes in genesets = 151  
 # genes with  $fdr < 0.1$  = 131 ( 122 + / 9 - )  
 # genes with  $fdr < 0.05$  = 117 ( 111 + / 6 - )  
 # genes with  $fdr < 0.01$  = 117 ( 111 + / 6 - )

<r> metagenes = 0.99  
 <r> genes = 0.5

<FC> = 0.75  
 <shrinkage-t> = 26.62  
 <p-value> = 0  
 <fdr> = 0.23

Profile

Spot



## Local Genelist

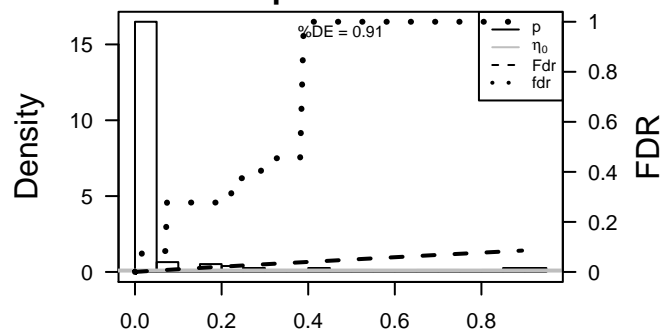
| Rank | ID     | log(FC) | fdr   | p-value | Description   |
|------|--------|---------|-------|---------|---|
| 1    | 79852  | 1.39    | 2e-16 | 8e-17   | 3 x 50 epoxide hydrolase 3 [Source:HGNC Symbol;Acc:23760]           |
| 2    | 57016  | 1.47    | 2e-16 | 8e-17   | 1 x 50 aldo-keto reductase family 1, member B10 (aldose reductase)  |
| 3    | 8644   | 2.62    | 2e-16 | 8e-17   | 1 x 50 aldo-keto reductase family 1, member C3 [Source:HGNC Sy      |
| 4    | 218    | 2.68    | 2e-16 | 8e-17   | 1 x 50 aldehyde dehydrogenase 3 family, member A1 [Source:HGNC      |
| 5    | 375791 | 1.43    | 2e-16 | 8e-17   | 1 x 50 chromosome 9 open reading frame 169 [Source:HGNC Synt        |
| 6    | 4680   | 1.73    | 2e-16 | 8e-17   | 1 x 50 carcinoembryonic antigen-related cell adhesion molecule 6 (  |
| 7    | 1087   | 1.22    | 2e-16 | 8e-17   | 4 x 50 carcinoembryonic antigen-related cell adhesion molecule 7 (  |
| 8    | 22802  | 2.03    | 2e-16 | 8e-17   | 1 x 50 chloride channel accessory 4 [Source:HGNC Symbol;Acc:20      |
| 9    | 84518  | 1.3     | 2e-16 | 8e-17   | 1 x 50 cornifelin [Source:HGNC Symbol;Acc:30183]                    |
| 10   | 49860  | 2.57    | 2e-16 | 8e-17   | 1 x 50 cornulin [Source:HGNC Symbol;Acc:1230]                       |
| 11   | 1475   | 1.33    | 2e-16 | 8e-17   | 1 x 50 cystatin A (stefin A) [Source:HGNC Symbol;Acc:2481]          |
| 12   | 92196  | 2.38    | 2e-16 | 8e-17   | 3 x 50 death associated protein-like 1 [Source:HGNC Symbol;Acc:2    |
| 13   | 2877   | 2.11    | 2e-16 | 8e-17   | 1 x 50 glutathione peroxidase 2 (gastrintestinal) [Source:HGNC Sy   |
| 14   | 26085  | 1.53    | 2e-16 | 8e-17   | 1 x 50 kallikrein-related peptidase 13 [Source:HGNC Symbol;Acc:6    |
| 15   | 5653   | 1.58    | 2e-16 | 8e-17   | 1 x 50 kallikrein-related peptidase 6 [Source:HGNC Symbol;Acc:63    |
| 16   | 5650   | 1.3     | 2e-16 | 8e-17   | 1 x 49 kallikrein-related peptidase 7 [Source:HGNC Symbol;Acc:63    |
| 17   | 3860   | 1.47    | 2e-16 | 8e-17   | 1 x 50 keratin 13 [Source:HGNC Symbol;Acc:6415]                     |
| 18   | 192666 | 1.48    | 2e-16 | 8e-17   | 1 x 50 keratin 24 [Source:HGNC Symbol;Acc:18527]                    |
| 19   | 3851   | 2.25    | 2e-16 | 8e-17   | 1 x 50 keratin 4 [Source:HGNC Symbol;Acc:6441]                      |
| 20   | 388533 | 1.24    | 2e-16 | 8e-17   | 1 x 49 keratinocyte differentiation-associated protein [Source:HGNC |

## Local Geneset Analysis

Overexpression

| Rank | GSZ   | p-value | #in/all   | Geneset  |
|------|-------|---------|-----------|--|
| 1    | 51.18 | NULL    | 66 / 135  | H.Tiss WIRTH_Mucosa  |
| 2    | 20.9  | NULL    | 69 / 572  | Disease GUDJ_psooriasis up                                   |
| 3    | 20.83 | NULL    | 17 / 53   | BP keratinocyte differentiation                              |
| 4    | 19.5  | NULL    | 13 / 21   | CC cornified envelope  |
| 5    | 19.49 | NULL    | 6 / 15    | GSEA C2HINATA_NFKB_TARGETS_KERATINOCYTE_DN                   |
| 6    | 19.34 | NULL    | 7 / 19    | BP peptide cross-linking                                     |
| 7    | 18.28 | NULL    | 4 / 10    | MF RAGE receptor binding                                     |
| 8    | 18.27 | NULL    | 6 / 13    | BP negative regulation of peptidase activity                 |
| 9    | 18.02 | NULL    | 6 / 16    | GSEA C2CROMER_TUMORIGENESIS_DN                               |
| 10   | 16.08 | NULL    | 5 / 16    | GSEA C2WANG_BARRETTS_ESOPHAGUS_DN                            |
| 11   | 15.62 | NULL    | 5 / 16    | GSEA C2ONDER_CDH1_TARGETS_3_DN                               |
| 12   | 15.57 | NULL    | 15 / 42   | BP keratinization  |
| 13   | 14.37 | NULL    | 3 / 12    | BP cellular aldehyde metabolic process                       |
| 14   | 13.54 | NULL    | 4 / 15    | MF retinol dehydrogenase activity                            |
| 15   | 12.47 | NULL    | 18 / 76   | BP epidermis development                                     |
| 16   | 11.29 | NULL    | 3 / 16    | GSEA C2CHEOK_RESPONSE_TO_MERCAPTOPYRINE_AND_LD_MTX_U         |
| 17   | 11.21 | NULL    | 2 / 10    | GSEA C2AUJLA_IL22_AND_IL17A_SIGNALING                        |
| 18   | 10.97 | NULL    | 10 / 122  | MF serine-type endopeptidase activity                        |
| 19   | 10.66 | NULL    | 6 / 38    | BP epithelial cell differentiation                           |
| 20   | 10.36 | NULL    | 8 / 52    | BP negative regulation of endopeptidase activity             |
| 21   | 10.27 | NULL    | 1 / 9     | GSEA C2NIKOLSKY_BREAST_CANCER_17P11_AMPLICON                 |
| 22   | 10.21 | NULL    | 5 / 29    | BP regulation of proteolysis                                 |
| 23   | 10.12 | NULL    | 5 / 15    | GSEA C2WANG_BARRETTS_ESOPHAGUS_AND_ESOPHAGUS_CANCE           |
| 24   | 9.94  | NULL    | 44 / 1182 | CC extracellular region                                      |
| 25   | 9.88  | NULL    | 2 / 15    | GSEA C2ALONSO_METASTASIS_NEURAL_UP                           |
| 26   | 9.85  | NULL    | 6 / 16    | GSEA C2SENGUPTA_NASOPHARYNGEAL_CARCINOMA_DN                  |
| 27   | 9.84  | NULL    | 3 / 15    | GSEA C2RICKMAN_HEAD_AND_NECK_CANCER_E                        |
| 28   | 9.59  | NULL    | 10 / 79   | MF serine-type endopeptidase inhibitor activity              |
| 29   | 9.46  | NULL    | 1 / 11    | Glio VERHAAK_Brain   |
| 30   | 9.42  | NULL    | 1 / 10    | BP positive regulation of endothelial cell apoptotic process |
| 31   | 9.42  | NULL    | 1 / 10    | BP retinal metabolic process                                 |
| 32   | 9.28  | NULL    | 3 / 16    | GSEA C2SMID_BREAST_CANCER_RELAPSE_IN_LUNG_UP                 |
| 33   | 9.03  | NULL    | 4 / 39    | BP retinoid metabolic process                                |
| 34   | 8.97  | NULL    | 1 / 12    | MF channel activity  |
| 35   | 8.89  | NULL    | 1 / 11    | BP prostaglandin metabolic process                           |
| 36   | 8.86  | NULL    | 4 / 10    | GSEA C2SMID_BREAST_CANCER_ERBB2_UP                           |
| 37   | 8.75  | NULL    | 3 / 14    | GSEA C2CHARAFE_BREAST_CANCER_BASAL_VS_MESENCHYMAL_U          |
| 38   | 8.7   | NULL    | 12 / 186  | MF structural molecule activity                              |
| 39   | 8.64  | NULL    | 2 / 14    | GSEA C2KEGG_PHENYLALANINE_METABOLISM                         |
| 40   | 8.55  | NULL    | 1 / 13    | GSEA C2HASLINGER_B_CLL_WITH_MUTATED_VH_GENES                 |

p-values



# GW\_188

## Local Summary

%DE = 0.95  
 # metagenes = 2  
 # genes = 94  
 # genes in genesets = 93

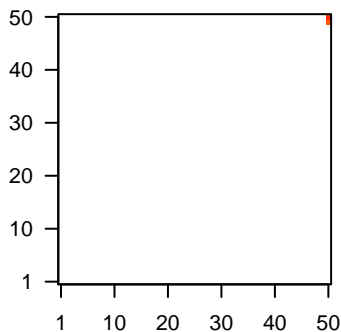
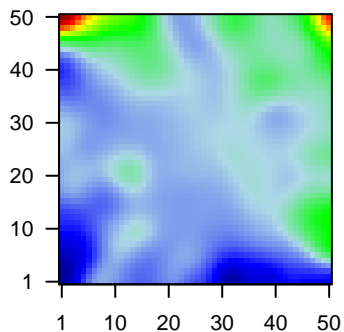
# genes with  $fdr < 0.1 = 81$  ( 80 + / 1 - )  
 # genes with  $fdr < 0.05 = 75$  ( 74 + / 1 - )  
 # genes with  $fdr < 0.01 = 64$  ( 63 + / 1 - )

<r> metagenes = 1  
 <r> genes = 0.34

<FC> = 0.69  
 <shrinkage-t> = 24  
 <p-value> = 0  
 <fdr> = 0.27

Profile

Spot



## Local Genelist

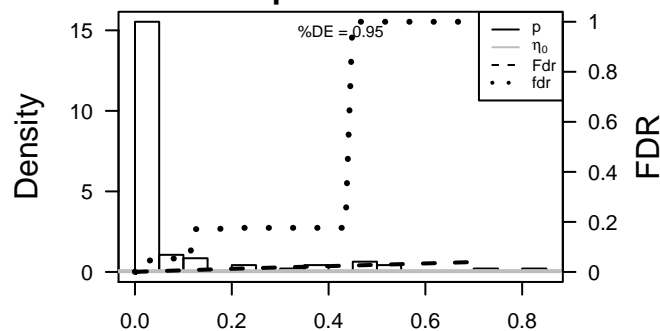
| Rank | ID     | log(FC) | fdr   | p-value | Description  |
|------|--------|---------|-------|---------|--|
| 1    | 10057  | 1.24    | 2e-16 | 6e-17   | 50 x 50 ATP-binding cassette, sub-family C (CFTR/MRP), member 5        |
| 2    | 8745   | 1.56    | 2e-16 | 6e-17   | 50 x 50 ADAM metallopeptidase domain 23 [Source:HGNC Symbol;A          |
| 3    | 216    | 1.61    | 2e-16 | 6e-17   | 50 x 50 aldehyde dehydrogenase 1 family, member A1 [Source:HGNC        |
| 4    | 655    | 1.44    | 2e-16 | 6e-17   | 50 x 50 bone morphogenetic protein 7 [Source:HGNC Symbol;Acc:1C        |
| 5    | 1056   | 1.26    | 2e-16 | 6e-17   | 50 x 50 carboxyl ester lipase [Source:HGNC Symbol;Acc:1848]            |
| 6    | 4072   | 1.27    | 2e-16 | 6e-17   | 50 x 50 epithelial cell adhesion molecule [Source:HGNC Symbol;Acc:     |
| 7    | 2947   | 1.29    | 2e-16 | 6e-17   | 50 x 50 glutathione S-transferase mu 3 (brain) [Source:HGNC Symb       |
| 8    | 3866   | 2.33    | 2e-16 | 6e-17   | 50 x 50 keratin 15 [Source:HGNC Symbol;Acc:6421]                       |
| 9    | 3880   | 1.65    | 2e-16 | 6e-17   | 50 x 49 keratin 19 [Source:HGNC Symbol;Acc:6436]                       |
| 10   | 4915   | 1.65    | 2e-16 | 6e-17   | 50 x 50 neurotrophic tyrosine kinase, receptor, type 2 [Source:HGNC    |
| 11   | 4922   | 3.38    | 2e-16 | 6e-17   | 50 x 50 neurotensin [Source:HGNC Symbol;Acc:8038]                      |
| 12   | 4953   | 1.23    | 2e-16 | 6e-17   | 50 x 50 ornithine decarboxylase 1 [Source:HGNC Symbol;Acc:8109]        |
| 13   | 55244  | 1.16    | 2e-16 | 6e-17   | 50 x 50 solute carrier family 47 (multidrug and toxin extrusion), memb |
| 14   | 83959  | 1.47    | 2e-16 | 6e-17   | 50 x 50 solute carrier family 4, sodium borate transporter, member 11  |
| 15   | 6657   | 1.43    | 2e-16 | 6e-17   | 50 x 50 SRY (sex determining region Y)-box 2 [Source:HGNC Symb         |
| 16   | 89894  | 1.41    | 2e-16 | 6e-17   | 50 x 50 transmembrane protein 116 [Source:HGNC Symbol;Acc:250E         |
| 17   | 2946   | 1.13    | 4e-16 | 6e-14   | 50 x 50 glutathione S-transferase mu 2 (muscle) [Source:HGNC Syrr      |
| 18   | 54578  | 1.06    | 2e-14 | 6e-14   | 50 x 50 UDP glucuronosyltransferase 1 family, polypeptide A6 [Sourc    |
| 19   | 224    | 1.05    | 3e-14 | 6e-14   | 50 x 50 aldehyde dehydrogenase 3 family, member A2 [Source:HGNC        |
| 20   | 205428 | 1.05    | 4e-14 | 6e-14   | 50 x 50 chromosome 3 open reading frame 58 [Source:HGNC Symb           |

## Local Geneset Analysis

Overexpression

| Rank | GSZ   | p-value | #in/all  | Geneset   |
|------|-------|---------|----------|---|
| 1    | 35.12 | NULL    | 3 / 8    | GSEA C2JUCDX2_TARGETS_DN                                    |
| 2    | 33.98 | NULL    | 2 / 7    | GSEA C2MCCOLLUM_GELDANAMYCIN_RESISTANCE_DN                  |
| 3    | 19.44 | NULL    | 5 / 15   | GSEA C2KEGG_GLUTATHIONE_METABOLISM                          |
| 4    | 19.05 | NULL    | 3 / 13   | BP regulation of blood vessel size                          |
| 5    | 17.92 | NULL    | 1 / 11   | Glio neurons_glio   |
| 6    | 15.51 | NULL    | 3 / 11   | MF glutathione binding                                      |
| 7    | 15.51 | NULL    | 3 / 11   | GSEA C2KEGG_DRUG_METABOLISM_CYTOCHROME_P450                 |
| 8    | 14.86 | NULL    | 1 / 15   | MF neuropeptide hormone activity                            |
| 9    | 14.5  | NULL    | 4 / 13   | GSEA C2KEGG_METABOLISM_OF_XENOBIOTICS_BY_CYTOCHROME_P       |
| 10   | 13.34 | NULL    | 2 / 12   | BP cellular aldehyde metabolic process                      |
| 11   | 13.22 | NULL    | 2 / 9    | GSEA C2NIKOLSKY_BREAST_CANCER_17P11_AMPLICON                |
| 12   | 12.94 | NULL    | 6 / 25   | BP glutathione derivative biosynthetic process              |
| 13   | 12.91 | NULL    | 8 / 34   | BP glutathione metabolic process                            |
| 14   | 12.9  | NULL    | 5 / 20   | MF glutathione transferase activity                         |
| 15   | 12.55 | NULL    | 2 / 10   | GSEA C2CONRAD_STEM_CELL                                     |
| 16   | 12.46 | NULL    | 1 / 6    | GSEA C2GAUSSMANN_MLL_AF4_FUSION_TARGETS_D_DN                |
| 17   | 12.46 | NULL    | 1 / 6    | GSEA C2KAPOSI_LIVER_CANCER_POOR_SURVIVAL_DN                 |
| 18   | 11.87 | NULL    | 2 / 14   | CC membrane-bounded vesicle                                 |
| 19   | 11.25 | NULL    | 1 / 7    | GSEA C2FREDERICK_PRKCI_TARGETS                              |
| 20   | 11.13 | NULL    | 2 / 12   | GSEA C2BROCKE_APOPTOSIS_REVERSED_BY_IL6                     |
| 21   | 11.03 | NULL    | 2 / 9    | GSEA C2REACTOME_METABOLISM_OF_AMINO_ACIDS                   |
| 22   | 10.94 | NULL    | 2 / 19   | BP anatomical structure formation involved in morphogenesis |
| 23   | 10.44 | NULL    | 2 / 18   | MF acyl-CoA dehydrogenase activity                          |
| 24   | 10.32 | NULL    | 2 / 16   | GSEA C2BOUYER_TATL_TARGETS_DN                               |
| 25   | 10.16 | NULL    | 1 / 15   | H.Tiss WIRTH_Cerebellum                                     |
| 26   | 10.02 | NULL    | 2 / 22   | BP eye development  |
| 27   | 10.01 | NULL    | 3 / 16   | GSEA C2BOYVAULT_LIVER_CANCER_SUBCLASS_G1_DN                 |
| 28   | 9.98  | NULL    | 1 / 7    | GSEA C2REACTOME_G1_S_TRANSITION                             |
| 29   | 9.98  | NULL    | 1 / 7    | miRNA target-145  |
| 30   | 9.92  | NULL    | 11 / 119 | BP xenobiotic metabolic process                             |
| 31   | 9.77  | NULL    | 1 / 16   | GSEA C2ROY_WOUND_BLOOD_VESSEL_DN                            |
| 32   | 9.56  | NULL    | 1 / 9    | GSEA C2ABDULRAHMAN_KIDNEY_CANCER_VHL_DN                     |
| 33   | 9.56  | NULL    | 1 / 9    | GSEA C2REACTOME_ETHANOL_OXIDATION                           |
| 34   | 9.35  | NULL    | 2 / 21   | BP feeding behavior   |
| 35   | 9.2   | NULL    | 1 / 8    | GSEA C2MCCABE_HOXC6_TARGETS_UP                              |
| 36   | 9.2   | NULL    | 1 / 10   | BP regulation of dendrite development                       |
| 37   | 9.2   | NULL    | 1 / 10   | BP regulation of MAPK cascade                               |
| 38   | 9.15  | NULL    | 1 / 8    | GSEA C2REACTOME_E2F_TRANSCRIPTIONAL_TARGETS_AT_G1_S         |
| 39   | 9.15  | NULL    | 1 / 8    | miRNA target-450  |
| 40   | 9.01  | NULL    | 2 / 20   | BP long-term memory   |

p-values



# GW\_188

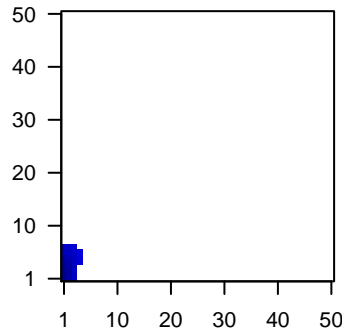
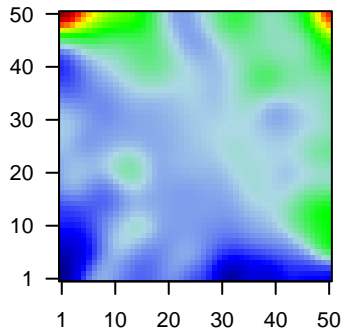
## Local Summary

%DE = 0.72  
 # metagenes = 24  
 # genes = 345  
 # genes in genesets = 342  
 # genes with  $fdr < 0.1$  = 185 ( 18 + / 167 - )  
 # genes with  $fdr < 0.05$  = 164 ( 14 + / 150 - )  
 # genes with  $fdr < 0.01$  = 116 ( 7 + / 109 - )

<r> metagenes = 0.94  
 <r> genes = 0.33  
 <FC> = -0.3  
 <shrinkage-t> = -10.38  
 <p-value> = 0  
 <fdr> = 0.53

Profile

Spot



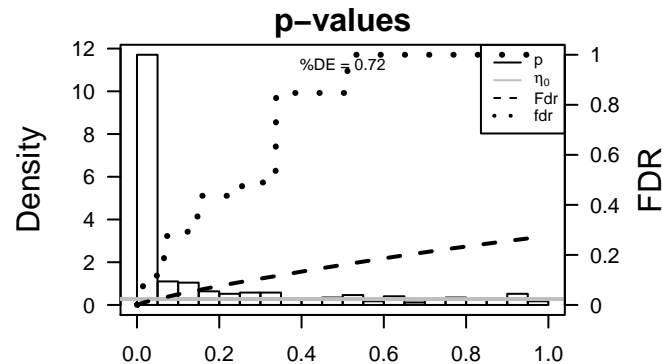
## Local Genelist

| Rank | ID     | log(FC) | fdr   | p-value | Description  |
|------|--------|---------|-------|---------|--|
| 1    | 414062 | -1.4    | 2e-16 | 2e-15   | 1 x 1 chemokine (C-C motif) ligand 3-like 3 [Source:HGNC Symbc         |
| 2    | 3918   | -1.43   | 2e-16 | 2e-15   | 1 x 4 laminin, gamma 2 [Source:HGNC Symbol;Acc:6493]                   |
| 3    | 4316   | -1.16   | 2e-16 | 2e-15   | 2 x 1 matrix metalloproteinase 7 (matrilysin, uterine) [Source:HGNC    |
| 4    | 4318   | -1.19   | 2e-16 | 2e-15   | 1 x 1 matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 9:   |
| 5    | 4502   | -1.36   | 2e-16 | 2e-15   | 1 x 3 metallothionein 2A [Source:HGNC Symbol;Acc:7406]                 |
| 6    | 5054   | -1.25   | 2e-16 | 2e-15   | 1 x 2 serpin peptidase inhibitor, clade E (nexin, plasminogen activa   |
| 7    | 6515   | -1.38   | 2e-16 | 2e-15   | 3 x 1 solute carrier family 2 (facilitated glucose transporter), membr |
| 8    | 7078   | -1.24   | 2e-16 | 2e-15   | 2 x 1 TIMP metalloproteinase inhibitor 3 [Source:HGNC Symbol;Acc:      |
| 9    | 3371   | 1.27    | 2e-16 | 2e-15   | 1 x 3 tenascin C [Source:HGNC Symbol;Acc:5318]                         |
| 10   | 6696   | -1.12   | 7e-16 | 4e-13   | 2 x 1 secreted phosphoprotein 1 [Source:HGNC Symbol;Acc:1125]          |
| 11   | 4907   | -1.08   | 5e-15 | 1e-12   | 1 x 3 5'-nucleotidase, ecto (CD73) [Source:HGNC Symbol;Acc:80:         |
| 12   | 3491   | -1.05   | 3e-14 | 3e-11   | 2 x 1 cysteine-rich, angiogenic inducer, 61 [Source:HGNC Symbol        |
| 13   | 25907  | 1.05    | 3e-14 | 3e-11   | 1 x 1 transmembrane protein 158 (gene/pseudogene) [Source:HG           |
| 14   | 51330  | -1.01   | 3e-13 | 5e-10   | 1 x 4 tumor necrosis factor receptor superfamily, member 12A [Sou      |
| 15   | 55107  | -0.95   | 6e-12 | 5e-10   | 1 x 5 anoctamin 1, calcium activated chloride channel [Source:HG       |
| 16   | 164284 | -0.94   | 1e-11 | 6e-10   | 1 x 3 adenomatosis polyposis coli down-regulated 1-like [Source:t      |
| 17   | 4489   | -0.86   | 2e-11 | 6e-10   | 1 x 4 metallothionein 1A [Source:HGNC Symbol;Acc:7393]                 |
| 18   | 91663  | -0.92   | 3e-11 | 6e-10   | 2 x 1 myeloid-associated differentiation marker [Source:HGNC Syr       |
| 19   | 79783  | -0.92   | 3e-11 | 7e-09   | 1 x 5 succinylCoA:glutarate-CoA transferase [Source:HGNC Symbt         |
| 20   | 768    | -0.89   | 1e-10 | 7e-09   | 1 x 6 carbonic anhydrase IX [Source:HGNC Symbol;Acc:1383]              |

## Local Geneset Analysis

Underexpression

| Rank | GSZ    | p-value | #in/all  | Geneset  |
|------|--------|---------|----------|--|
| 1    | -27.57 | NULL    | 11 / 15  | GSEA C2CROMER_TUMORIGENESIS_UP                 |
| 2    | -21.91 | NULL    | 7 / 16   | GSEA C2AMIT_EGF_RESPONSE_60_HELA               |
| 3    | -21.84 | NULL    | 4 / 7    | GSEA C2WANG_ESOPHAGUS_CANCER_PROGRESSION_UP    |
| 4    | -19.18 | NULL    | 3 / 5    | GSEA C2VERNELL_RETINOBLASTOMA_PATHWAY_DN       |
| 5    | -18.71 | NULL    | 4 / 8    | GSEA C2SASAKI_TARGETS_OF_TP73_AND_TP63         |
| 6    | -18.63 | NULL    | 3 / 6    | GSEA C2AGARWAL_AKT_PATHWAY_TARGETS             |
| 7    | -18.52 | NULL    | 62 / 242 | BP extracellular matrix organization           |
| 8    | -17.04 | NULL    | 6 / 13   | GSEA C2TSAI_RESPONSE_TO_RADIATION_THERAPY      |
| 9    | -17.02 | NULL    | 8 / 13   | GSEA C2MAHADEVAN_GIST_MORPHOLOGICAL_SWITCH     |
| 10   | -16.59 | NULL    | 63 / 250 | LymphoidENZ_Stromal signature 1                |
| 11   | -16.51 | NULL    | 6 / 15   | GSEA C2DASU_IL6_SIGNALING_SCAR_DN              |
| 12   | -16.31 | NULL    | 5 / 16   | GSEA C2CHEN_LVAD_SUPPORT_OF_FAILING_HEART_UP   |
| 13   | -15.73 | NULL    | 14 / 16  | MMML C2CIEJ_MMML 1                             |
| 14   | -15.62 | NULL    | 6 / 16   | GSEA C2AMIT_SERUM_RESPONSE_60_MCF10A           |
| 15   | -15.41 | NULL    | 6 / 13   | GSEA C2FRIDMAN_SENESCENCE_UP                   |
| 16   | -15.3  | NULL    | 3 / 6    | Glio Martinezz_Glio_hypometh                   |
| 17   | -15.24 | NULL    | 9 / 15   | GSEA C2ONDER_CDH1_SIGNALING_VIA_CTNNB1         |
| 18   | -14.74 | NULL    | 3 / 7    | GSEA C2TUNODA_CISPLATIN_RESISTANCE_UP          |
| 19   | -14.57 | NULL    | 7 / 15   | GSEA C2ONDER_CDH1_TARGETS_2_UP                 |
| 20   | -14.41 | NULL    | 6 / 16   | GSEA C2AMIT_EGF_RESPONSE_60_MCF10A             |
| 21   | -14.41 | NULL    | 8 / 19   | MF extracellular matrix binding                |
| 22   | -14.36 | NULL    | 4 / 13   | GSEA C2CHIN_BREAST_CANCER_COPY_NUMBER_UP       |
| 23   | -14.23 | NULL    | 6 / 16   | GSEA C2LU_TUMOR_VASCULATURE_UP                 |
| 24   | -13.93 | NULL    | 6 / 12   | BP hemidesmosome assembly                      |
| 25   | -13.39 | NULL    | 4 / 10   | GSEA C2JEON_SMAD6_TARGETS_UP                   |
| 26   | -13.37 | NULL    | 5 / 14   | GSEA C2HALMOS_CEBPA_TARGETS_DN                 |
| 27   | -13.06 | NULL    | 3 / 7    | GSEA C2DASU_IL6_SIGNALING_DN                   |
| 28   | -12.99 | NULL    | 4 / 11   | GSEA C2YAMANAKA_GLIOMASTOMA_SURVIVAL_UP        |
| 29   | -12.99 | NULL    | 48 / 190 | CC extracellular matrix                        |
| 30   | -12.85 | NULL    | 26 / 69  | BP extracellular matrix disassembly            |
| 31   | -12.67 | NULL    | 4 / 16   | GSEA C2DORN_ADENOVIRUS_INFECTION_32HR_DN       |
| 32   | -12.67 | NULL    | 4 / 16   | GSEA C2DORN_ADENOVIRUS_INFECTION_48HR_DN       |
| 33   | -12.58 | NULL    | 24 / 64  | BP collagen catabolic process                  |
| 34   | -12.25 | NULL    | 5 / 16   | GSEA C2GU_PDEF_TARGETS_UP                      |
| 35   | -12.22 | NULL    | 9 / 16   | MF fibronectin binding                         |
| 36   | -12.07 | NULL    | 4 / 14   | GSEA C2WANG_ESOPHAGUS_CANCER_VS_NORMAL_UP      |
| 37   | -11.99 | NULL    | 6 / 16   | GSEA C2ROONQUIST_STROMAL_STIMULATION_UP        |
| 38   | -11.95 | NULL    | 4 / 16   | GSEA C2LEONARD_HYPOXIA                         |
| 39   | -11.88 | NULL    | 5 / 16   | GSEA C2KIM_WT1_TARGETS_UP                      |
| 40   | -11.81 | NULL    | 14 / 68  | Glio cultured astroglia vs. in vivo astrocytes |



# GW\_188

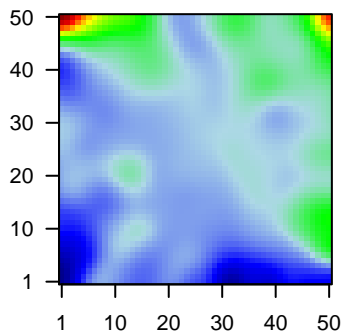
## Local Summary

%DE = 0.8  
 # metagenes = 22  
 # genes = 332  
 # genes in genesets = 307  
 # genes with  $fdr < 0.1$  = 205 ( 7 + / 198 - )  
 # genes with  $fdr < 0.05$  = 152 ( 5 + / 147 - )  
 # genes with  $fdr < 0.01$  = 102 ( 2 + / 100 - )

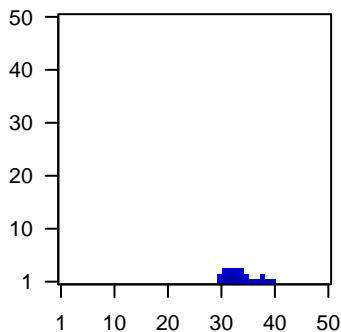
$\langle r \rangle$  metagenes = 0.79  
 $\langle r \rangle$  genes = 0.28

$\langle FC \rangle = -0.33$   
 $\langle \text{shrinkage-t} \rangle = -11.58$   
 $\langle p\text{-value} \rangle = 0$   
 $\langle fdr \rangle = 0.56$

Profile



Spot



## Local Genelist

| Rank | ID    | log(FC) | fdr   | p-value | Description   |
|------|-------|---------|-------|---------|---|
| 1    | 3627  | -1.4    | 2e-16 | 5e-15   | 32 x 1 chemokine (C-X-C motif) ligand 10 [Source:HGNC Symbol;Acc:10561]                             |
| 2    | 10561 | -1.26   | 2e-16 | 5e-15   | 32 x 1 interferon-induced protein 44 [Source:HGNC Symbol;Acc:16963]                                 |
| 3    | 9636  | -1.44   | 2e-16 | 5e-15   | 32 x 1 ISG15 ubiquitin-like modifier [Source:HGNC Symbol;Acc:40566]                                 |
| 4    | 684   | -1.13   | 4e-16 | 6e-14   | 32 x 1 bone marrow stromal cell antigen 2 [Source:HGNC Symbol;Acc:10561]                            |
| 5    | 2537  | -1.11   | 1e-15 | 2e-13   | 32 x 1 interferon, alpha-inducible protein 6 [Source:HGNC Symbol;Acc:10561]                         |
| 6    | 94240 | -1.08   | 5e-15 | 4e-12   | 32 x 1 epithelial stromal interaction 1 (breast) [Source:HGNC Symbol;Acc:10561]                     |
| 7    | 4321  | -1.04   | 7e-14 | 4e-11   | 32 x 1 matrix metalloproteinase 12 (macrophage elastase) [Source:HGNC Symbol;Acc:10561]             |
| 8    | 4061  | -1      | 6e-13 | 2e-10   | 32 x 1 lymphocyte antigen 6 complex, locus E [Source:HGNC Symbol;Acc:10561]                         |
| 9    | 10964 | -0.95   | 7e-12 | 2e-10   | 32 x 1 interferon-induced protein 44-like [Source:HGNC Symbol;Acc:10561]                            |
| 10   | 84061 | -0.95   | 9e-12 | 2e-10   | 39 x 1 magnesium transporter 1 [Source:HGNC Symbol;Acc:28880]                                       |
| 11   | 3136  | -0.95   | 9e-12 | 6e-09   | 32 x 1  |
| 12   | 3134  | -0.89   | 1e-10 | 7e-09   | 32 x 1 major histocompatibility complex, class I, F [Source:HGNC Symbol;Acc:10561]                  |
| 13   | 9560  | -0.88   | 2e-10 | 6e-08   | 32 x 1 chemokine (C-C motif) ligand 4-like 1 [Source:HGNC Symbol;Acc:10561]                         |
| 14   | 51191 | -0.84   | 1e-09 | 6e-08   | 32 x 1 HECT and RLD domain containing E3 ubiquitin protein ligase 1 [Source:HGNC Symbol;Acc:10561]  |
| 15   | 4600  | -0.83   | 2e-09 | 1e-07   | 32 x 1 myxovirus (influenza virus) resistance 2 (mouse) [Source:HGNC Symbol;Acc:10561]              |
| 16   | 55601 | -0.81   | 5e-09 | 1e-07   | 32 x 1 DEAD (Asp-Glu-Ala-Asp) box polypeptide 60 [Source:HGNC Symbol;Acc:10561]                     |
| 17   | 2633  | -0.8    | 6e-09 | 2e-07   | 32 x 1 guanylate binding protein 1, interferon-inducible [Source:HGNC Symbol;Acc:10561]             |
| 18   | 3106  | -0.72   | 1e-08 | 2e-07   | 32 x 1 major histocompatibility complex, class I, B [Source:HGNC Symbol;Acc:10561]                  |
| 19   | 91543 | -0.78   | 2e-08 | 2e-07   | 32 x 1 radical S-adenosyl methionine domain containing 2 [Source:HGNC Symbol;Acc:10561]             |
| 20   | 51296 | -0.78   | 2e-08 | 2e-06   | 32 x 1 solute carrier family 15 (oligopeptide transporter), member 3 [Source:HGNC Symbol;Acc:10561] |

## Local Geneset Analysis

Underexpression

| Rank | GSZ    | p-value | #in/all  | Geneset  |
|------|--------|---------|----------|--|
| 1    | -42.53 | NULL    | 13 / 16  | GSEA C2MOSERLE_IFNA_RESPONSE                                       |
| 2    | -41.75 | NULL    | 13 / 16  | GSEA C2EINAV_INTERFERON_SIGNATURE_IN_CANCER                        |
| 3    | -38.39 | NULL    | 29 / 51  | BP type I interferon signaling pathway                             |
| 4    | -30.98 | NULL    | 6 / 8    | GSEA C2ROETH_TERT_TARGETS_UP                                       |
| 5    | -30.5  | NULL    | 9 / 10   | GSEA C2BOWIE_RESPONSE_TO_EXTRACELLULAR_MATRIX                      |
| 6    | -29.91 | NULL    | 11 / 16  | GSEA C2ZHANG_INTERFERON_RESPONSE                                   |
| 7    | -28.83 | NULL    | 35 / 123 | BP defense response to virus                                       |
| 8    | -28.72 | NULL    | 3 / 5    | GSEA C2KIM_LRRC3B_TARGETS  |
| 9    | -28.46 | NULL    | 10 / 13  | GSEA C2BOWIE_RESPONSE_TO_TAMOXIFEN                                 |
| 10   | -26.66 | NULL    | 3 / 4    | GSEA C2KRASNOSELSKAYA_ILF3_TARGETS_UP                              |
| 11   | -26    | NULL    | 11 / 16  | GSEA C2JROSEVIC_RESPONSE_TO_IMIQUIMOD                              |
| 12   | -25.5  | NULL    | 28 / 109 | BP response to virus   |
| 13   | -25.09 | NULL    | 8 / 11   | GSEA C2BENNETT_SYSTEMIC_LUPUS_ERYTHEMATOSUS                        |
| 14   | -25.08 | NULL    | 15 / 31  | BP negative regulation of viral genome replication                 |
| 15   | -23.91 | NULL    | 6 / 6    | Lymphocyte antigen 6 complex, locus E                              |
| 16   | -23.18 | NULL    | 7 / 16   | GSEA C2MAHADEVAN_RESPONSE_TO_MP470_UP                              |
| 17   | -23.13 | NULL    | 8 / 10   | GSEA C2GRANDVAUX_IFN_RESPONSE_NOT_VIA_IRF3                         |
| 18   | -22.54 | NULL    | 5 / 16   | GSEA C2FARMER_BREAST_CANCER_CLUSTER_1                              |
| 19   | -22.22 | NULL    | 3 / 4    | MMML C2CICIEJ_MMML_47  |
| 20   | -21.5  | NULL    | 6 / 12   | GSEA C2TSAI_DNAJB4_TARGETS_UP                                      |
| 21   | -21.2  | NULL    | 4 / 12   | GSEA C2ZHU_CMV_8_HR_UP   |
| 22   | -21.09 | NULL    | 34 / 204 | BP cytokine-mediated signaling pathway                             |
| 23   | -20.78 | NULL    | 7 / 16   | GSEA C2KU_HGF_TARGETS_INDUCED_BY_AKT1_6HR                          |
| 24   | -20.72 | NULL    | 4 / 15   | GSEA C2BECKER_TAMOXIFEN_RESISTANCE_UP                              |
| 25   | -20.56 | NULL    | 4 / 10   | GSEA C2DAUER_STAT3_TARGETS_DN                                      |
| 26   | -20.36 | NULL    | 6 / 14   | GSEA C2RADAIEVA_RESPONSE_TO_IFNA1_UP                               |
| 27   | -19.73 | NULL    | 4 / 16   | GSEA C2SEITZ_NEOPLASTIC_TRANSFORMATION_BY_8P_DELETION_1            |
| 28   | -19.31 | NULL    | 7 / 10   | CC MHC class I protein complex                                     |
| 29   | -18.12 | NULL    | 4 / 14   | GSEA C2TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_8D_UP                  |
| 30   | -17.98 | NULL    | 3 / 9    | GSEA C2DER_IFN_ALPHA_RESPONSE_UP                                   |
| 31   | -17.98 | NULL    | 3 / 9    | GSEA C2DER_IFN_GAMMA_RESPONSE_UP                                   |
| 32   | -17.9  | NULL    | 8 / 18   | MF peptide antigen binding   |
| 33   | -17.89 | NULL    | 6 / 14   | GSEA C2XU_AKT1_TARGETS_6HR   |
| 34   | -17.69 | NULL    | 8 / 18   | BP positive regulation of T cell mediated cytotoxicity             |
| 35   | -17.52 | NULL    | 49 / 572 | Disease GUDJ_poriasis up   |
| 36   | -17.31 | NULL    | 16 / 60  | BP interferon-gamma-mediated signaling pathway                     |
| 37   | -17.23 | NULL    | 34 / 274 | Lymphocyte antigen 6 complex, locus E                              |
| 38   | -17.13 | NULL    | 5 / 14   | GSEA C2TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_3D_UP                  |
| 39   | -15.92 | NULL    | 7 / 14   | Glio Donsor-immune cell intra signaling-associated with LTS in HGA |
| 40   | -13.98 | NULL    | 3 / 13   | GSEA C2TSAI_RESPONSE_TO_RADIATION_THERAPY                          |

p-values

