|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Supplementary Data 3. Significantly (Fisher’s Exact < 0.001) enriched terms for molecular function (MF) per trait. | | | | | |
| Trait | ID | Term | No. of significant genes | No. of genes in the term | Fisher's Exact Test |
| DD AFFECTED | GO:0042578 | phosphoric ester hydrolase activity | 24 | 307 | 1,30E-04 |
|  | GO:0038064 | collagen receptor activity | 3 | 4 | 1,50E-04 |
|  | GO:0015075 | ion transmembrane transporter activity | 41 | 699 | 4,30E-04 |
|  | GO:0008324 | cation transmembrane transporter activity | 33 | 530 | 5,60E-04 |
|  | GO:0004672 | protein kinase activity | 33 | 543 | 8,50E-04 |
| DD ACUTE | GO:0042578 | phosphoric ester hydrolase activity | 26 | 307 | 1,40E-04 |
|  | GO:0005516 | calmodulin binding | 10 | 67 | 2,20E-04 |
|  | GO:0060589 | nucleoside-triphosphatase regulator activity | 20 | 215 | 2,40E-04 |
|  | GO:0005261 | cation channel activity | 23 | 269 | 2,90E-04 |
|  | GO:0016788 | hydrolase activity, acting on ester bonds | 42 | 629 | 3,30E-04 |
|  | GO:0030695 | GTPase regulator activity | 18 | 198 | 6,30E-04 |
|  | GO:0016773 | phosphotransferase activity, alcohol group as acceptor | 41 | 639 | 8,80E-04 |
| DD CHRONICITY | GO:0015075 | ion transmembrane transporter activity | 46 | 699 | 5,40E-06 |
|  | GO:0022891 | substrate-specific transmembrane transporter activity | 47 | 816 | 1,20E-04 |
|  | GO:0008324 | cation transmembrane transporter activity | 34 | 530 | 1,50E-04 |
|  | GO:0046873 | metal ion transmembrane transporter activity | 26 | 363 | 1,70E-04 |
|  | GO:0022857 | transmembrane transporter activity | 49 | 898 | 3,20E-04 |
|  | GO:0030295 | protein kinase activator activity | 7 | 43 | 4,60E-04 |
|  | GO:0005216 | ion channel activity | 25 | 372 | 5,90E-04 |
|  | GO:0022890 | inorganic cation transmembrane transporter activity | 28 | 446 | 8,40E-04 |
|  | GO:0022892 | substrate-specific transporter activity | 50 | 965 | 9,00E-04 |
|  | GO:0022838 | substrate-specific channel activity | 25 | 385 | 9,70E-04 |
| DD PROLIFERATION | GO:0016772 | transferase activity, transferring phosphorus-containing groups | 48 | 853 | 7,30E-06 |
|  | GO:0098772 | molecular function regulator | 52 | 972 | 1,20E-05 |
|  | GO:0004672 | protein kinase activity | 33 | 543 | 4,90E-05 |
|  | GO:0016301 | kinase activity | 40 | 716 | 5,20E-05 |
|  | GO:0005005 | transmembrane-ephrin receptor activity | 3 | 4 | 9,50E-05 |
|  | GO:0016773 | phosphotransferase activity, alcohol group as acceptor | 36 | 639 | 1,10E-04 |
|  | GO:0016740 | transferase activity | 81 | 1972 | 5,90E-04 |
|  | GO:0000182 | rDNA binding | 3 | 7 | 7,80E-04 |
|  | GO:0001162 | RNA polymerase II intronic transcription regulatory region sequence-specific DNA binding | 3 | 7 | 7,80E-04 |

Note that following terms are significantly (Fisher’s Exact < 0.001) enriched for more than one trait: GO:0042578 phosphoric ester hydrolase activity DD AFFECTED and DD ACUTE; GO:0015075 ion transmembrane transporter activity and GO:0008324 cation transmembrane transporter activity for traits DD AFFECTED and DD CHRONICITY; GO:0004672 protein kinase activity for DD AFFECTED and DD PROLIFERATION; GO:0016773 phosphotransferase activity, alcohol group as acceptor for DD ACUTE and DD PROLIFERATION.