**Supplementary Table 1** Gene set enrichment results in epithelial cells in ileum for each dietary treatment

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| GENE SET NAMES1 | SIZE | NES | FDR q-val |
|  |  |  |  |
| *Beta glucans vs Control* |  |  |  |
| GROWTH\_FACTOR\_ACTIVITY | 27 | 1.98 | 0.026 |
| HYDROLASE\_ACTIVITY\_HYDROLYZING\_O\_GLYCOSYL\_COMPOUNDS | 22 | 1.90 | 0.058 |
|  |  |  |  |
| *Fish Oil vs Control* |  |  |  |
| None |  |  |  |
|  |  |  |  |
| *Lysozyme vs Control* |  |  |  |
| CATION\_HOMEOSTASIS | 57 | 1.86 | 0.057 |
| ION\_HOMEOSTASIS | 67 | 1.79 | 0.064 |
| CELLULAR\_CATION\_HOMEOSTASIS | 55 | 1.79 | 0.069 |
| CELLULAR\_HOMEOSTASIS | 76 | 1.77 | 0.070 |
| CHEMICAL\_HOMEOSTASIS | 82 | 1.82 | 0.076 |
| KEGG\_GLYCINE\_SERINE\_AND\_THREONINE\_METABOLISM | 21 | 1.79 | 0.079 |
| RESPONSE\_TO\_EXTRACELLULAR\_STIMULUS | 19 | 1.86 | 0.084 |
| RESPONSE\_TO\_NUTRIENT\_LEVELS | 18 | 1.90 | 0.088 |
| HOMEOSTATIC\_PROCESS | 113 | 1.79 | 0.093 |
|  |  |  |  |
| *Quercetin vs Control* |  |  |  |
| KEGG\_PRIMARY\_IMMUNODEFICIENCY | 27 | 1.99 | 0.055 |
|  |  |  |  |
| *Quercitin vs Control* |  |  |  |
| ANION\_TRANSMEMBRANE\_TRANSPORTER\_ACTIVITY | 24 | -1.91 | 0.074 |
|  |  |  |  |
| *Oat hulls vs Control* |  |  |  |
| ANION\_TRANSMEMBRANE\_TRANSPORTER\_ACTIVITY | 24 | -1.96 | 0.016 |
| EMBRYONIC\_DEVELOPMENT | 40 | -1.84 | 0.096 |

1 Gene sets are enriched in the underlined treatment