

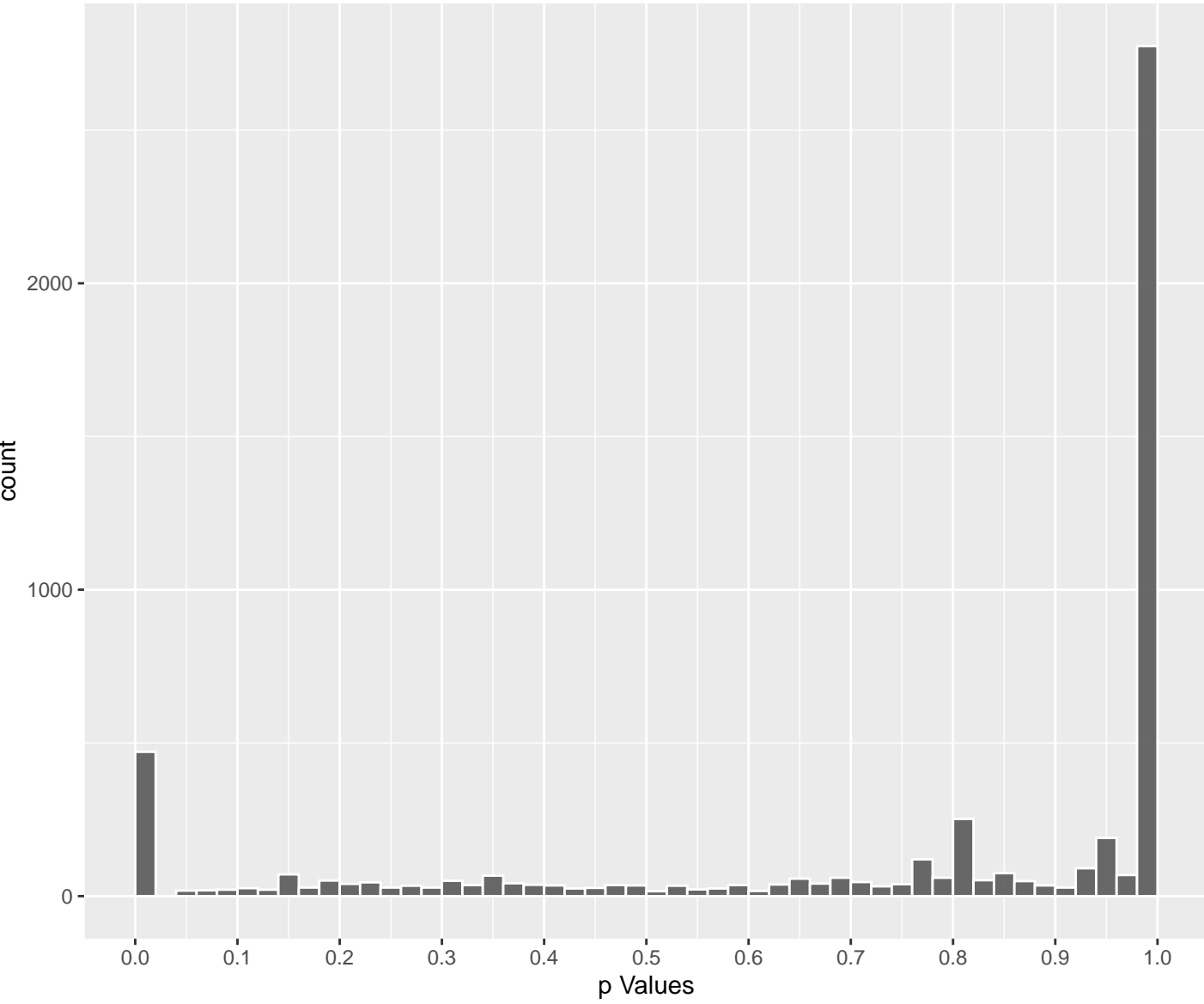
Top genes by P–value Permulated

| Gene             | Rho         | N  | P         | p.adj     | permPValue | qValueNoperm | qValuePerm |
|------------------|-------------|----|-----------|-----------|------------|--------------|------------|
| ENSG000000281748 | −0.23693955 | 20 | 2.170e−01 | 1.000e+00 | 3.076e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000157554  | −0.15699441 | 65 | 1.269e−01 | 1.000e+00 | 3.464e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000204138  | −0.13441498 | 68 | 1.810e−01 | 1.000e+00 | 3.595e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000103534  | −0.09666537 | 51 | 4.071e−01 | 1.000e+00 | 3.671e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000145491  | −0.20135071 | 43 | 1.141e−01 | 1.000e+00 | 3.745e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000134138  | −0.11296150 | 61 | 2.878e−01 | 1.000e+00 | 3.780e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000136634  | −0.11478341 | 55 | 3.059e−01 | 1.000e+00 | 3.938e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000241127  | −0.11515906 | 66 | 2.591e−01 | 1.000e+00 | 4.055e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000139926  | 0.14068448  | 46 | 2.528e−01 | 1.000e+00 | 4.108e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000154553  | 0.18759644  | 58 | 8.546e−02 | 1.000e+00 | 4.266e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000064835  | −0.05270463 | 16 | 8.084e−01 | 1.000e+00 | 4.421e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000025772  | 0.15532974  | 64 | 1.341e−01 | 1.000e+00 | 4.458e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000205078  | 0.21653278  | 27 | 1.842e−01 | 1.000e+00 | 4.705e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000149218  | −0.12363675 | 64 | 2.330e−01 | 1.000e+00 | 4.854e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000237521  | 0.06970715  | 21 | 7.091e−01 | 1.000e+00 | 4.887e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000143390  | −0.17288849 | 64 | 9.538e−02 | 1.000e+00 | 4.919e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000237172  | −0.04873453 | 62 | 6.438e−01 | 1.000e+00 | 4.919e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000143036  | 0.09560455  | 53 | 4.029e−01 | 1.000e+00 | 4.948e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000133193  | −0.09442315 | 62 | 3.702e−01 | 1.000e+00 | 4.980e−02  | 1.000e+00    | 1.000e+00  |
| ENSG000000182173 | 0.16593802  | 66 | 1.039e−01 | 1.000e+00 | 5.074e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000002726  | 0.19302201  | 28 | 2.274e−01 | 1.000e+00 | 5.089e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000089876  | 0.05579490  | 68 | 5.787e−01 | 1.000e+00 | 5.185e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000113356  | 0.13272624  | 56 | 2.321e−01 | 1.000e+00 | 5.370e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000166510  | 0.31950483  | 16 | 1.415e−01 | 1.000e+00 | 5.370e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000167657  | −0.15977630 | 68 | 1.118e−01 | 1.000e+00 | 5.370e−02  | 1.000e+00    | 1.000e+00  |

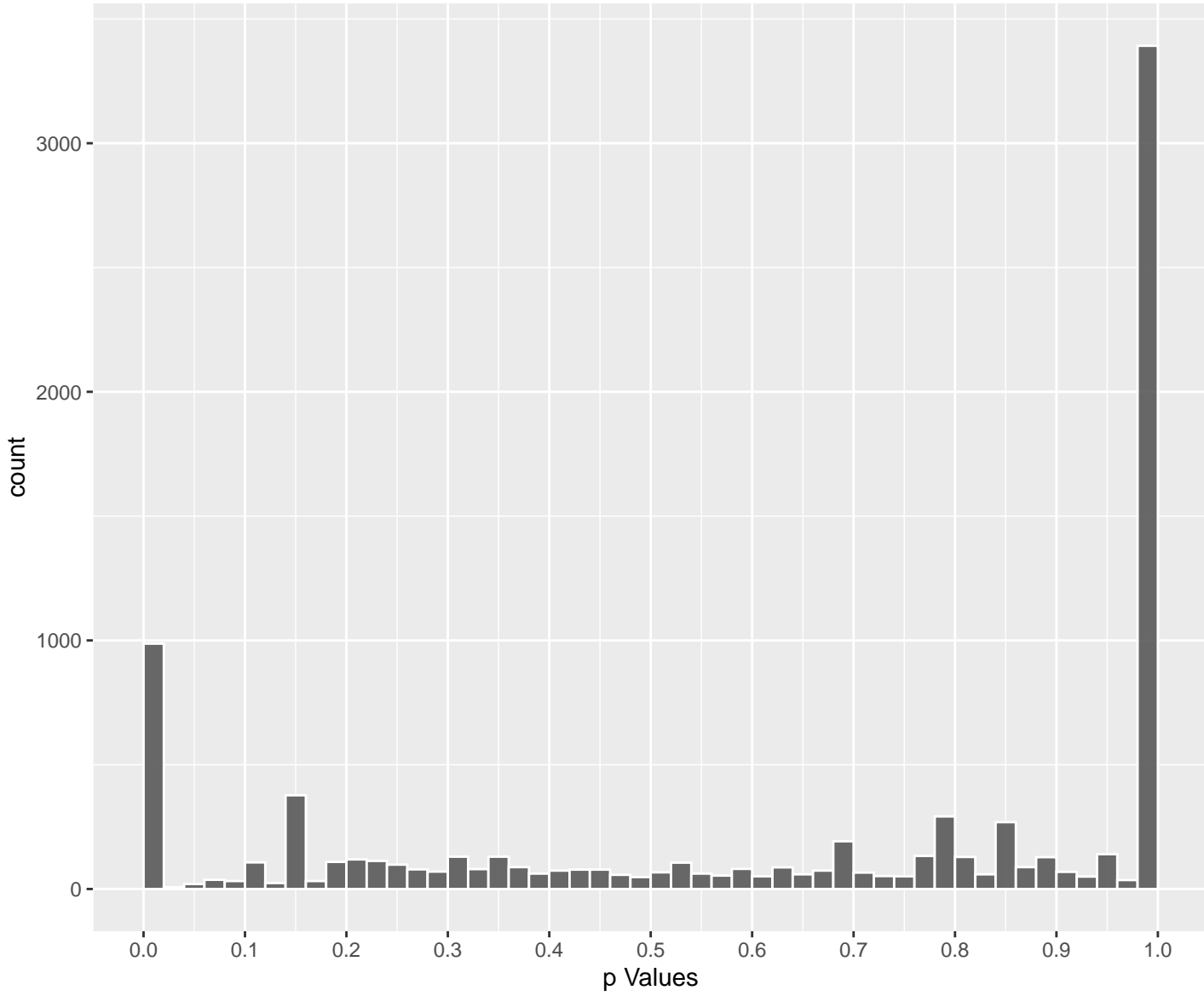
Top genes by P–value non–permulated

| Gene             | Rho         | N  | P         | p.adj     | permPValue | qValueNoperm | qValuePerm |
|------------------|-------------|----|-----------|-----------|------------|--------------|------------|
| ENSG000000117152 | −0.47999759 | 58 | 1.080e−05 | 1.593e−01 | 1.813e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000070404  | −0.41905036 | 65 | 4.609e−05 | 3.399e−01 | 1.919e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000164188  | −0.40737422 | 64 | 8.511e−05 | 4.185e−01 | 3.090e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000000003  | 0.02491137  | 64 | 8.101e−01 | 1.000e+00 | 8.240e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000000419  | −0.05579490 | 68 | 5.787e−01 | 1.000e+00 | 9.999e−01  | 1.000e+00    | 1.000e+00  |
| ENSG000000000460 | −0.05656972 | 56 | 6.105e−01 | 1.000e+00 | 1.000e+00  | 1.000e+00    | 1.000e+00  |
| ENSG00000000938  | −0.16876196 | 58 | 1.218e−01 | 1.000e+00 | 7.236e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000000971  | −0.10193702 | 60 | 3.416e−01 | 1.000e+00 | 9.999e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001036  | 0.03296971  | 68 | 7.428e−01 | 1.000e+00 | 9.999e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001084  | −0.04284988 | 66 | 6.745e−01 | 1.000e+00 | 4.619e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001167  | −0.10271334 | 68 | 3.067e−01 | 1.000e+00 | 9.999e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001461  | −0.04927305 | 55 | 6.603e−01 | 1.000e+00 | 1.419e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001561  | −0.05243340 | 64 | 6.130e−01 | 1.000e+00 | 9.999e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001617  | −0.03352508 | 37 | 8.079e−01 | 1.000e+00 | 1.000e+00  | 1.000e+00    | 1.000e+00  |
| ENSG00000001626  | 0.06802170  | 64 | 5.117e−01 | 1.000e+00 | 1.000e+00  | 1.000e+00    | 1.000e+00  |
| ENSG00000001629  | 0.07230918  | 66 | 4.785e−01 | 1.000e+00 | 1.000e+00  | 1.000e+00    | 1.000e+00  |
| ENSG00000001630  | 0.03170165  | 68 | 7.524e−01 | 1.000e+00 | 6.851e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001631  | 0.03749365  | 66 | 7.133e−01 | 1.000e+00 | 7.693e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000002016  | −0.07559289 | 25 | 6.565e−01 | 1.000e+00 | 6.736e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000002330  | 0.01052312  | 62 | 9.205e−01 | 1.000e+00 | 9.999e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000002549  | −0.03550584 | 68 | 7.238e−01 | 1.000e+00 | 4.577e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000002587  | 0.05615848  | 44 | 6.556e−01 | 1.000e+00 | 6.390e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000002726  | 0.19302201  | 28 | 2.274e−01 | 1.000e+00 | 5.089e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000002745  | −0.06332476 | 20 | 7.415e−01 | 1.000e+00 | 4.016e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000002822  | 0.07366181  | 62 | 4.846e−01 | 1.000e+00 | 8.106e−01  | 1.000e+00    | 1.000e+00  |

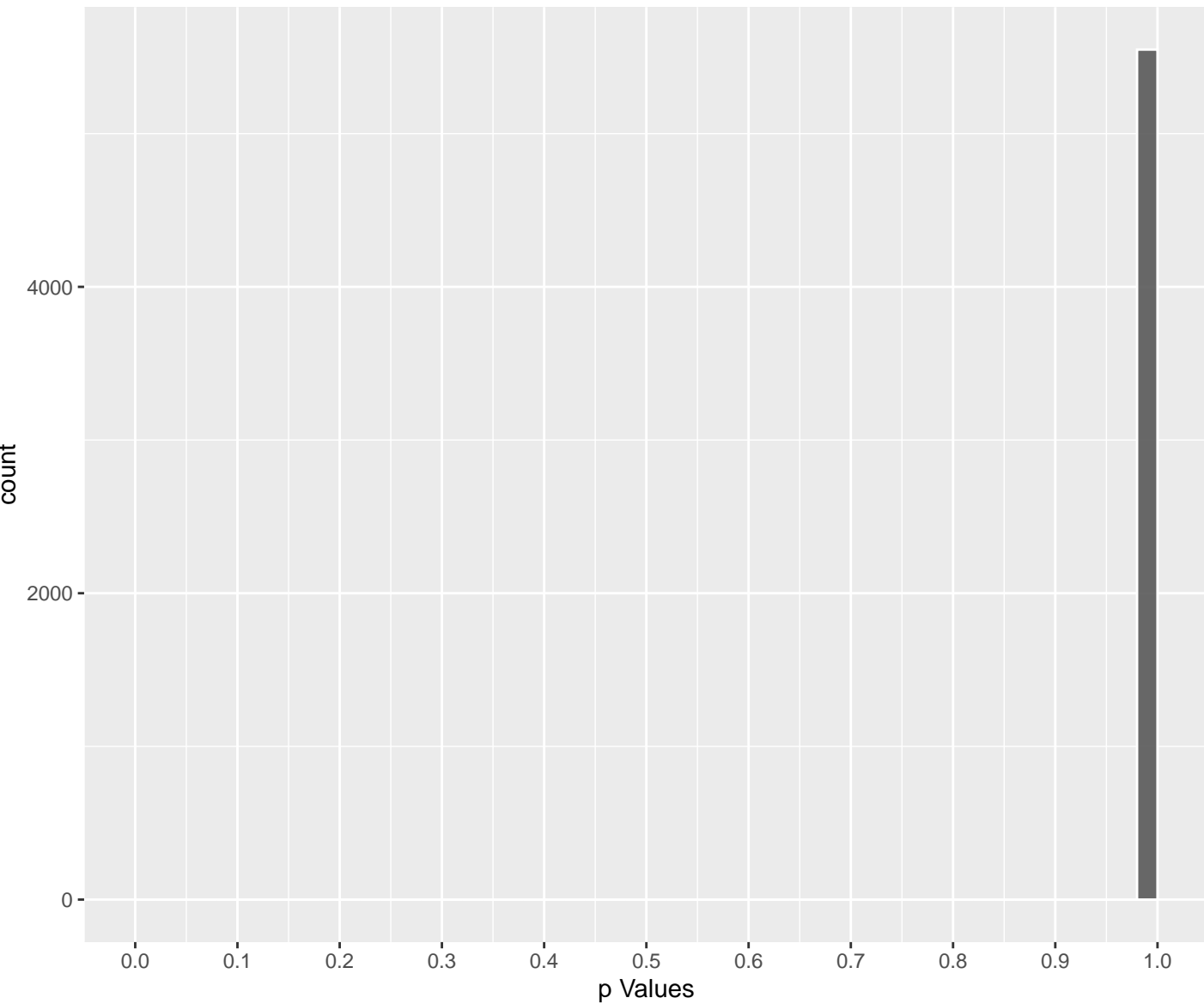
Positive Rho Permulated



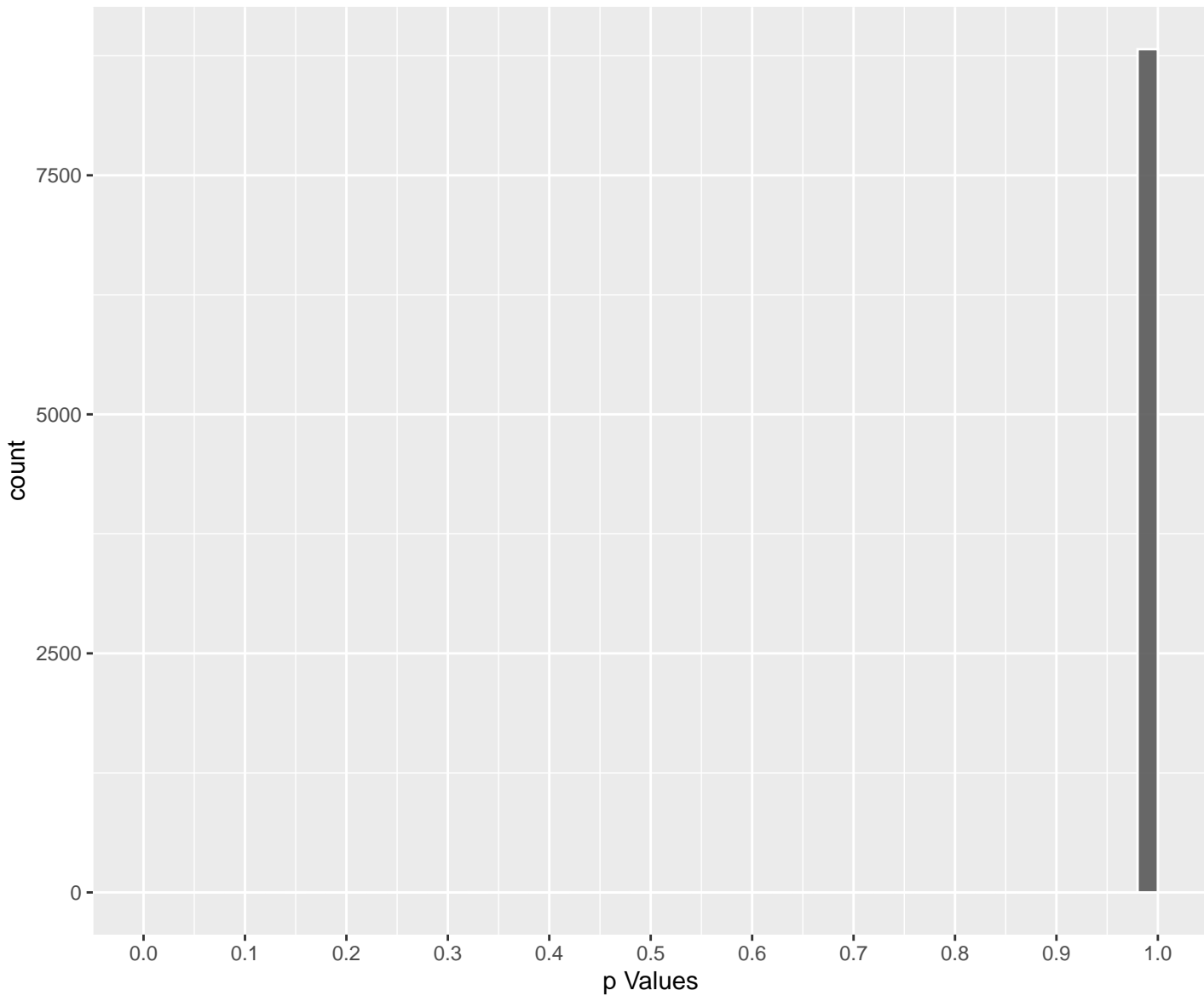
Negative Rho Permulated



Positive Rho Non–permulated



Negative Rho Non–permulated



Top Positive genes by P–value Permulated

| Gene            | Rho        | N  | P         | p.adj     | permPValue | qValueNoperm | qValuePerm |
|-----------------|------------|----|-----------|-----------|------------|--------------|------------|
| ENSG00000139926 | 0.14068448 | 46 | 2.528e−01 | 1.000e+00 | 4.108e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000154553 | 0.18759644 | 58 | 8.546e−02 | 1.000e+00 | 4.266e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000025772 | 0.15532974 | 64 | 1.341e−01 | 1.000e+00 | 4.458e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000205078 | 0.21653278 | 27 | 1.842e−01 | 1.000e+00 | 4.705e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000237521 | 0.06970715 | 21 | 7.091e−01 | 1.000e+00 | 4.887e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000143036 | 0.09560455 | 53 | 4.029e−01 | 1.000e+00 | 4.948e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000182173 | 0.16593802 | 66 | 1.039e−01 | 1.000e+00 | 5.074e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000002726 | 0.19302201 | 28 | 2.274e−01 | 1.000e+00 | 5.089e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000089876 | 0.05579490 | 68 | 5.787e−01 | 1.000e+00 | 5.185e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000113356 | 0.13272624 | 56 | 2.321e−01 | 1.000e+00 | 5.370e−02  | 1.000e+00    | 1.000e+00  |

Top Negative genes by P–value Permulated

| Gene            | Rho         | N  | P         | p.adj     | permPValue | qValueNoperm | qValuePerm |
|-----------------|-------------|----|-----------|-----------|------------|--------------|------------|
| ENSG00000281748 | −0.23693955 | 20 | 2.170e−01 | 1.000e+00 | 3.076e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000157554 | −0.15699441 | 65 | 1.269e−01 | 1.000e+00 | 3.464e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000204138 | −0.13441498 | 68 | 1.810e−01 | 1.000e+00 | 3.595e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000103534 | −0.09666537 | 51 | 4.071e−01 | 1.000e+00 | 3.671e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000145491 | −0.20135071 | 43 | 1.141e−01 | 1.000e+00 | 3.745e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000134138 | −0.11296150 | 61 | 2.878e−01 | 1.000e+00 | 3.780e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000136634 | −0.11478341 | 55 | 3.059e−01 | 1.000e+00 | 3.938e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000241127 | −0.11515906 | 66 | 2.591e−01 | 1.000e+00 | 4.055e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000064835 | −0.05270463 | 16 | 8.084e−01 | 1.000e+00 | 4.421e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000149218 | −0.12363675 | 64 | 2.330e−01 | 1.000e+00 | 4.854e−02  | 1.000e+00    | 1.000e+00  |

Top Positive genes by P–value non–permulated

| Gene            | Rho        | N  | P         | p.adj     | permPValue | qValueNoperm | qValuePerm |
|-----------------|------------|----|-----------|-----------|------------|--------------|------------|
| ENSG00000000003 | 0.02491137 | 64 | 8.101e−01 | 1.000e+00 | 8.240e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001036 | 0.03296971 | 68 | 7.428e−01 | 1.000e+00 | 9.999e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001626 | 0.06802170 | 64 | 5.117e−01 | 1.000e+00 | 1.000e+00  | 1.000e+00    | 1.000e+00  |
| ENSG00000001629 | 0.07230918 | 66 | 4.785e−01 | 1.000e+00 | 1.000e+00  | 1.000e+00    | 1.000e+00  |
| ENSG00000001630 | 0.03170165 | 68 | 7.524e−01 | 1.000e+00 | 6.851e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001631 | 0.03749365 | 66 | 7.133e−01 | 1.000e+00 | 7.693e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000002330 | 0.01052312 | 62 | 9.205e−01 | 1.000e+00 | 9.999e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000002587 | 0.05615848 | 44 | 6.556e−01 | 1.000e+00 | 6.390e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000002726 | 0.19302201 | 28 | 2.274e−01 | 1.000e+00 | 5.089e−02  | 1.000e+00    | 1.000e+00  |
| ENSG00000002822 | 0.07366181 | 62 | 4.846e−01 | 1.000e+00 | 8.106e−01  | 1.000e+00    | 1.000e+00  |

Top Negative genes by P–value non–permulated

| Gene             | Rho         | N  | P         | p.adj     | permPValue | qValueNoperm | qValuePerm |
|------------------|-------------|----|-----------|-----------|------------|--------------|------------|
| ENSG00000117152  | −0.47999759 | 58 | 1.080e−05 | 1.593e−01 | 1.813e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000070404  | −0.41905036 | 65 | 4.609e−05 | 3.399e−01 | 1.919e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000164188  | −0.40737422 | 64 | 8.511e−05 | 4.185e−01 | 3.090e−01  | 1.000e+00    | 1.000e+00  |
| ENSG000000000419 | −0.05579490 | 68 | 5.787e−01 | 1.000e+00 | 9.999e−01  | 1.000e+00    | 1.000e+00  |
| ENSG000000000460 | −0.05656972 | 56 | 6.105e−01 | 1.000e+00 | 1.000e+00  | 1.000e+00    | 1.000e+00  |
| ENSG00000000938  | −0.16876196 | 58 | 1.218e−01 | 1.000e+00 | 7.236e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000000971  | −0.10193702 | 60 | 3.416e−01 | 1.000e+00 | 9.999e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001167  | −0.10271334 | 68 | 3.067e−01 | 1.000e+00 | 9.999e−01  | 1.000e+00    | 1.000e+00  |
| ENSG00000001461  | −0.04927305 | 55 | 6.603e−01 | 1.000e+00 | 1.419e−01  | 1.000e+00    | 1.000e+00  |