**Table S1:** Primary and Secondary Antibodies

|  |  |  |
| --- | --- | --- |
| **Primary Antibody** | **Source** | **Dilution** |
| Rat anti-BrdU | Abcam | 1:100 |
| Guinea Pig anti-Sox17 | Whitsett Lab | 1:1000 |
| Mouse anti-FoxA2 | Novus Biologicals | 1:500 |
| Mouse anti-proinsulin | R&D | 1:500 |
| Rabbit anti-Cre | Novagen | 1:5000 |
| Chicken anti-BGal | Abcam | 1:1000 |
| Rat anti-Insulin | R&D | 1:200 |
| Goat anti-Somatostatin | Santa Cruz | 1:200 |
| Guinea Pig anti-Glucagon | Linco | 1:1000 |
| Rabbit anti-active Caspase 3 | Cell Signaling | 1:100 |
| Mouse anti-KDELR | Enzo | 1:100 |
| Rabbit anti-ERGIC | Sigma | 1:200 |
| Mouse anti-E-Cadherin | BD Biosciences | 1:500 |
| Mouse anti-GM130 | BD Transduction | 1:100 |
| Goat anti-Glut2 | Santa Cruz | 1:1000 |
| Mouse anti-Nkx2.2 | 74.5A5-C | 1:100 |
| Goat anti-Pdx1 | Abcam | 1:100 |
| Goat anti-Hnf1B | Santa Cruz | 1:100 |
| Rabbit anti-B-catenin | Santa Cruz | 1:100 |
| Guinea Pig anti-Insulin | DAKO | 1:1000 |
| **Secondary Antibody** | **Source** | Dilution |
| Goat anti-mouse IgG2a 549 | Jackson Immuno | 1:400 |
| Goat anti-chicken Biotin | Jackson Immuno | 1:200 |
| Goat anti-mouse IgG1 488 | Jackson Immuno | 1:400 |
| Goat anti-rabbit 488 | Invitrogen | 1:400 |
| Goat anti-mouse Biotin | Jackson Immuno | 1:200 |
| Goat anti-guinea pig Cy5 | Jackson Immuno | 1:200 |
| Goat anti-rabbit Cy5 | Jackson Immuno | 1:200 |
| Donkey anti-rabbit Cy3 | Jackson Immuno | 1:200 |
| Donkey anti-rat 546 | Invitrogen | 1:200 |
| Donkey anti-goat 549 | Jackson Immuno | 1:200 |
| Donkey anti-rabbit 488 | Invitrogen | 1:200 |
| Donkey anti-guinea pig Cy5 | Jackson Immuno | 1:200 |
| Donkey anti-guine pig 549 | Jackson Immuno | 1:200 |
| Donkey anti-guine pig biotin | Jackson Immuno | 1:200 |
| Donkey anti-goat 488 | Jackson Immuno | 1:200 |
| Donkey anti-goat biotin | Invitrogen | 1:200 |
| Donkey anti-mouse 647 | Invitrogen | 1:200 |
| Donkey anti-mouse Cy3 | Jackson Immuno | 1:200 |
| **Conjugates/Nuclear Dyes** |  |  |
| Strepavidin cy5 | Jackson Immuno | 1/500 |
| TOPRO3 | Jackson Immuno | 1/20,000 |
| DRAQ5 | Cell Signaling | 1/10,000 |
| TSA KIT, tyr 488 | Invitrogen | 1:200 |
| TSA KIT, tyr 549 | Invitrogen | 1:200 |

**Table S1.** Primary and Secondary Antibodies.

**Table S2: Transcripts that were changed in Sox17-GOF islets.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Genbank** | **Fold Change** | **P-value** | **Common** |
| ENSMUST00000025680 | 29.45 | 0.0356 | Lipf |
| XM\_917532 | 27.57 | 1.66E-05 | EG640530 |
| NM\_008614 | 21.66 | 0.00165 | Mobp |
| ENSMUST00000034903 | 17.76 | 0.00606 | Gsta4 |
| NM\_019790 | 13.95 | 0.00112 | Tmeff2 |
| BC055924 | 13.93 | 0.00831 | EG545886 |
| AF498319 | 11.11 | 3.95E-05 | Rgs13 |
| BC023359 | 10.09 | 0.00228 | 3632451O06Rik |
| NM\_013927 | 9.731 | 0.00064 | Cngb3 |
| NM\_175647 | 7.219 | 0.00273 | Dmrta1 |
| NM\_145629 | 6.465 | 0.000132 | Pls3 |
| BC048664 | 6.401 | 0.0203 | 1700016D06Rik |
| ENSMUST00000014248 | 6.234 | 0.0462 | Sval2 |
| M65237 | 6.227 | 0.0246 | Mug-ps1 |
| NM\_026713 | 6.055 | 0.0265 | Mogat1 |
| NM\_177747 | 5.989 | 0.000235 | Zfp711 |
| NM\_133348 | 5.557 | 0.00198 | Acot7 |
| ENSMUST00000099091 | 5.332 | 6.18E-05 | Gm410 |
| NM\_009037 | 5.249 | 9.30E-06 | Rcn1 |
| NM\_134022 | 5.221 | 0.0024 | 6330403K07Rik |
| NM\_172781 | 5.206 | 0.0462 | Klhl4 |
| NM\_019754 | 5.117 | 0.00182 | Tagln3 |
| NM\_009801 | 4.937 | 0.00438 | Car2 |
| NM\_080448 | 4.575 | 0.00224 | Srgap3 |
| NM\_008278 | 4.511 | 0.0137 | Hpgd |
| NM\_175465 | 4.459 | 0.00123 | Sestd1 |
| NM\_008885 | 4.426 | 0.000901 | Pmp22 |
| NM\_175771 | 4.37 | 0.00805 | Tmem47 |
| NM\_011807 | 4.339 | 0.00296 | Dlg2 |
| NM\_177373 | 4.209 | 0.00233 | Ppfia2 |
| NM\_010408 | 4.145 | 0.00216 | Hcn1 |
| ENSMUST00000085469 | 4.066 | 0.00618 | Pik3cg |
| NM\_153457 | 4.037 | 0.0176 | Rtn1 |
| NM\_008594 | 4.014 | 0.00237 | Mfge8 |
| NM\_138595 | 3.958 | 0.0192 | Gldc |
| NM\_011348 | 3.824 | 0.000452 | Sema3e |
| ENSMUST00000064054 | 3.821 | 0.0149 | Syt1 |
| XM\_146632 | 3.723 | 0.00103 | 9030420J04Rik |
| NM\_027997 | 3.721 | 0.000584 | Serpina9 |
| NM\_011254 | 3.718 | 0.000254 | Rbp1 |
| NM\_013930 | 3.683 | 0.00191 | Aass |
| NM\_019703 | 3.605 | 0.00272 | Pfkp |
| NM\_019656 | 3.586 | 0.00143 | Tspan6 |
| NM\_019641 | 3.54 | 2.97E-05 | Stmn1 |
| NM\_010251 | 3.515 | 0.0172 | Gabra4 |
| NM\_027168 | 3.498 | 0.00134 | Hddc2 |
| ENSMUST00000030303 | 3.493 | 0.00774 | Cyp2j6 |
| NM\_019641 | 3.488 | 9.45E-05 | Stmn1 |
| NM\_008481 | 3.432 | 0.000217 | Lama2 |
| NM\_001011875 | 3.419 | 0.024 | Rnase12 |
| NM\_173379 | 3.4 | 0.000368 | Leprel1 |
| NM\_013657 | 3.395 | 0.00456 | Sema3c |
| NM\_009807 | 3.341 | 0.00549 | Casp1 |
| NM\_025760 | 3.303 | 0.0254 | Ptplad2 |
| NM\_001082976 | 3.288 | 0.00142 | Tc2n |
| NM\_080448 | 3.273 | 0.0118 | Srgap3 |
| NM\_029942 | 3.273 | 0.00056 | Prelid2 |
| NM\_029447 | 3.19 | 0.00042 | Nln |
| NM\_181414 | 3.187 | 0.0058 | Pik3c3 |
| ENSMUST00000040423 | 3.152 | 0.0204 | Cd59a |
| AK046516 | 3.132 | 0.00687 | ENSMUSG00000071543 |
| ENSMUST00000107802 | 3.11 | 0.00124 | Trim59 |
| NM\_080462 | 3.108 | 0.00883 | Hnmt |
| AF184981 | 3.073 | 0.0402 | Fmo2 |
| ENSMUST00000029876 | 3.068 | 0.0018 | Calb1 |
| NM\_198702 | 3.058 | 0.00054 | Lphn3 |
| NM\_010807 | 3.034 | 0.0218 | Marcksl1 |
| NM\_010634 | 3.033 | 0.00105 | Fabp5 |
| NM\_018863 | 3.002 | 0.0238 | Pdyn |
| BC051224 | 3 | 0.0172 | A530053G22Rik |
| NM\_001042592 | 2.992 | 0.0478 | Arrdc4 |
| ENSMUST00000004497 | 2.948 | 0.00089 | Large |
| NM\_010597 | 2.922 | 0.00749 | Kcnab1 |
| NM\_146100 | 2.918 | 0.000279 | Ina |
| ENSMUST00000046513 | 2.902 | 0.00286 | Phyhipl |
| NM\_007697 | 2.889 | 0.0137 | Chl1 |
| BC002008 | 2.871 | 2.00E-05 | Fabp5 |
| NM\_001033773 | 2.856 | 0.0351 | Ube2u |
| NM\_001081128 | 2.833 | 0.00035 | Mtr |
| NM\_001033331 | 2.807 | 0.0296 | Gas2l3 |
| NM\_178779 | 2.803 | 0.00601 | Rnf152 |
| NM\_001009935 | 2.786 | 0.0377 | Txnip |
| BC055351 | 2.782 | 0.00489 | Hn1l |
| NM\_144855 | 2.759 | 0.0175 | Cbs |
| ENSMUST00000039366 | 2.745 | 0.00467 | Kcnh8 |
| NM\_019691 | 2.745 | 0.000159 | Gria4 |
| NM\_024279 | 2.738 | 0.0112 | 1700094C09Rik |
| NM\_029619 | 2.724 | 0.00179 | Msrb2 |
| ENSMUST00000033554 | 2.72 | 0.0178 | Gpr165 |
| NM\_026167 | 2.706 | 0.0107 | Klhl13 |
| ENSMUST00000007340 | 2.704 | 0.0014 | Atp12a |
| NM\_207685 | 2.701 | 0.00626 | Elavl2 |
| NM\_013709 | 2.674 | 0.000149 | Sh3yl1 |
| ENSMUST00000081721 | 2.659 | 0.000244 | Ezh2 |
| NM\_011035 | 2.658 | 0.013 | Pak1 |
| NM\_172805 | 2.655 | 0.00654 | Kcnh5 |
| NM\_018779 | 2.647 | 0.0405 | Pde3a |
| NM\_027971 | 2.619 | 0.0132 | Serpinb12 |
| NM\_001033346 | 2.612 | 0.0106 | Lrrc55 |
| NM\_172824 | 2.598 | 0.0016 | Ccdc14 |
| NM\_029466 | 2.574 | 0.00589 | Arl5b |
| ENSMUST00000019290 | 2.561 | 0.00513 | Cacng2 |
| BC100412 | 2.553 | 0.00586 | 1700001E04Rik |
| NM\_019631 | 2.526 | 0.0471 | Tmem45a |
| NM\_172671 | 2.526 | 0.0002 | Lgr4 |
| NM\_001001804 | 2.519 | 0.00706 | Abhd7 |
| NM\_001029930 | 2.517 | 0.00418 | ENSMUSG00000068790 |
| BC117712 | 2.514 | 0.000213 | Clec12b |
| NM\_021099 | 2.482 | 0.00177 | Kit |
| ENSMUST00000078021 | 2.468 | 0.0145 | Glmn |
| NM\_172310 | 2.461 | 0.0409 | Tarsl2 |
| NM\_178005 | 2.442 | 0.00535 | Lrrtm2 |
| NM\_008604 | 2.442 | 0.00172 | Mme |
| BC049669 | 2.428 | 5.64E-05 | 1700047I17Rik1 |
| BC049669 | 2.428 | 5.64E-05 | 1700047I17Rik1 |
| NM\_201371 | 2.423 | 0.0186 | Prmt8 |
| BC037216 | 2.397 | 0.00309 | Lrrtm4 |
| NM\_153124 | 2.393 | 0.0103 | St8sia5 |
| NM\_001083897 | 2.391 | 0.00386 | Mpzl1 |
| NM\_023245 | 2.375 | 0.0079 | Palmd |
| NM\_198302 | 2.374 | 0.0123 | Rbm11 |
| NM\_028719 | 2.37 | 0.00957 | Cpne4 |
| BC050850 | 2.359 | 0.00977 | AK129302 |
| NM\_007675 | 2.357 | 0.0206 | Ceacam10 |
| NM\_028651 | 2.357 | 0.0115 | Tmtc4 |
| NM\_153587 | 2.355 | 0.0248 | Rps6ka5 |
| ENSMUST00000070522 | 2.355 | 0.00154 | Plod2 |
| NM\_011943 | 2.354 | 0.00135 | Map2k6 |
| NM\_153163 | 2.35 | 0.0056 | Cadps2 |
| NM\_013540 | 2.34 | 0.00106 | Gria2 |
| NM\_026139 | 2.338 | 0.0061 | Armcx2 |
| XM\_001479202 | 2.328 | 0.0112 | LOC100047943 |
| NM\_198422 | 2.324 | 0.00589 | Paqr3 |
| NM\_029001 | 2.312 | 0.00623 | Elovl7 |
| BC060180 | 2.309 | 0.00646 | Ccng2 |
| NM\_133239 | 2.309 | 0.000543 | Crb1 |
| EF651808 | 2.291 | 0.00278 | Hn1l |
| NM\_009121 | 2.288 | 0.000817 | Sat1 |
| NM\_178673 | 2.284 | 0.014 | Fstl5 |
| NM\_177173 | 2.277 | 0.0142 | A830018L16Rik |
| NM\_028979 | 2.273 | 0.000678 | Cyp2j9 |
| NM\_010315 | 2.271 | 0.00905 | Gng2 |
| NM\_146140 | 2.265 | 0.00681 | Tram1l1 |
| NM\_001081121 | 2.243 | 0.027 | 4931429I11Rik |
| EF651808 | 2.241 | 0.00108 | Hn1l |
| NM\_001083628 | 2.238 | 0.000428 | AK220484 |
| NM\_010164 | 2.234 | 0.00572 | Eya1 |
| NM\_007913 | 2.228 | 0.0139 | Egr1 |
| ENSMUST00000075853 | 2.217 | 0.0298 | Cks2 |
| NM\_001031664 | 2.209 | 0.0172 | Nudt10 |
| AK129372 | 2.209 | 0.00784 | 9430031J16Rik |
| NM\_172256 | 2.208 | 0.00251 | Dync2li1 |
| ENSMUST00000035038 | 2.204 | 0.00423 | Faim |
| BC016222 | 2.201 | 0.00273 | LOC544988 |
| NM\_001099298 | 2.2 | 0.0211 | Scn2a1 |
| NM\_145575 | 2.198 | 0.00136 | Cald1 |
| NM\_028876 | 2.192 | 0.0163 | Tmed5 |
| NM\_134072 | 2.189 | 0.00578 | Akr1c14 |
| NM\_028810 | 2.184 | 0.0282 | Rnd3 |
| NM\_008633 | 2.17 | 0.00062 | Mtap4 |
| NM\_010237 | 2.162 | 0.0357 | Frk |
| NM\_013754 | 2.162 | 0.0192 | Insl6 |
| NM\_028665 | 2.158 | 0.00374 | Ankrd42 |
| NM\_177290 | 2.15 | 0.0394 | Itgb8 |
| ENSMUST00000030684 | 2.14 | 0.00432 | Gnl2 |
| NM\_026470 | 2.135 | 0.00448 | Spata6 |
| NM\_001037725 | 2.135 | 4.07E-05 | Als2cr13 |
| ENSMUST00000002926 | 2.134 | 0.00151 | Pla1a |
| NM\_133227 | 2.133 | 0.0154 | Nup155 |
| ENSMUST00000028369 | 2.127 | 0.0305 | Dapl1 |
| ENSMUST00000053950 | 2.125 | 0.0244 | Lrrc28 |
| EF651808 | 2.12 | 0.00233 | Hn1l |
| NM\_017377 | 2.119 | 0.00507 | B4galt2 |
| ENSMUST00000099343 | 2.118 | 0.0403 | Nr2c1 |
| DQ112091 | 2.117 | 0.00164 | B230118H07Rik |
| NM\_023249 | 2.103 | 0.0172 | Ypel1 |
| BC100412 // BC100412 | 2.102 | 0.000781 | 1700001E04Rik // 1700001E04Rik |
| ENSMUST00000057866 | 2.101 | 0.0291 | Nrsn1 |
| ENSMUST00000029423 | 2.098 | 0.0155 | Serpini1 |
| NM\_032465 | 2.094 | 0.00344 | Cd96 |
| AB073967 | 2.09 | 0.00404 | 1100001E04Rik |
| NM\_001024706 | 2.08 | 0.00767 | EG432825 |
| BC129903 | 2.072 | 0.0127 | Fgd4 |
| EF651808 | 2.053 | 0.00224 | Hn1l |
| NM\_008083 | 2.048 | 0.0377 | Gap43 |
| NM\_009923 | 2.048 | 0.0257 | Cnp |
| NM\_009199 | 2.042 | 0.00277 | Slc1a1 |
| NM\_026825 | 2.037 | 0.012 | Lrrc16 |
| BC035305 | 2.034 | 0.00588 | Aig1 |
| NM\_181579 | 2.028 | 0.0136 | Pof1b |
| ENSMUST00000114292 | 2.027 | 0.0474 | Cadm2 |
| BC032970 | 2.026 | 0.00122 | 2810026P18Rik |
| NM\_001043335 | 2.022 | 0.0199 | Eml1 |
| NM\_010882 | 2.016 | 0.000483 | Ndn |
| NM\_177591 | 2.014 | 0.00468 | Igsf1 |
| NM\_001098230 | 2.005 | 0.0129 | Ppm2c |
| NM\_019958 | 2.002 | 0.00457 | Rgs17 |
| NM\_001081664 | 1.998 | 0.0102 | 4833423E24Rik |
| ENSMUST00000052431 | 1.996 | 0.0161 | Armcx6 |
| NM\_027409 | 1.994 | 0.0266 | Mospd1 |
| ENSMUST00000075853 | 1.992 | 0.0287 | Cks2 |
| NM\_145928 | 1.99 | 0.0211 | Tspan14 |
| NM\_008576 | 1.984 | 0.0433 | Abcc1 |
| XR\_032130 | 1.981 | 0.0146 | LOC667519 |
| NM\_145743 | 1.978 | 0.0181 | Lace1 |
| NM\_023598 | 1.97 | 0.0278 | Arid5b |
| NM\_008485 | 1.97 | 0.0101 | Lamc2 |
| ENSMUST00000034801 | 1.964 | 0.0364 | Bckdhb |
| NM\_175393 | 1.964 | 0.0122 | 4930555G01Rik |
| NM\_175393 | 1.964 | 0.0122 | 4930555G01Rik |
| NM\_027934 | 1.961 | 0.000703 | Rnf180 |
| NM\_001083628 | 1.96 | 0.00932 | AK220484 |
| NM\_001081257 | 1.96 | 0.00124 | LOC545291 |
| NM\_009255 | 1.948 | 0.0428 | Serpine2 |
| NM\_008585 | 1.943 | 0.000297 | Mep1a |
| NM\_027569 | 1.938 | 0.00124 | Spag9 |
| NM\_020574 | 1.936 | 0.0376 | Kcne3 |
| NM\_008017 | 1.934 | 0.0141 | Smc2 |
| ENSMUST00000040056 | 1.934 | 0.00436 | Ppfibp2 |
| NM\_030165 | 1.931 | 0.00906 | Galnact2 |
| NM\_145940 | 1.927 | 0.00287 | Wipi1 |
| ENSMUST00000057019 | 1.917 | 0.00807 | Agtrl1 |
| NM\_023732 | 1.917 | 0.00754 | Abcb6 |
| NM\_146201 | 1.913 | 0.0233 | Zfp553 |
| NM\_153195 | 1.91 | 0.0385 | Fbxo7 |
| NM\_177742 | 1.9 | 0.0292 | Triml1 |
| NM\_011883 | 1.887 | 0.0291 | Rnf13 |
| NM\_013751 | 1.887 | 0.00922 | Hrasls |
| NM\_173760 | 1.881 | 0.0251 | Hisppd1 |
| ENSMUST00000049681 | 1.88 | 0.0466 | Itgbl1 |
| NM\_054088 | 1.88 | 0.00532 | Pnpla3 |
| NM\_025816 | 1.879 | 0.000175 | Tax1bp1 |
| ENSMUST00000008179 | 1.878 | 0.0061 | Mid1ip1 |
| NM\_027571 | 1.877 | 0.0477 | P2ry12 |
| NM\_026115 | 1.877 | 0.00982 | Hat1 |
| NM\_172770 | 1.875 | 0.00825 | Ttc12 |
| AK043745 | 1.871 | 0.0485 | Tmem71 |
| NM\_027927 | 1.871 | 0.0367 | Ints12 |
| ENSMUST00000027172 | 1.869 | 0.00788 | Ica1l |
| NM\_013935 | 1.868 | 0.0402 | Ptpla |
| NM\_001099633 | 1.867 | 0.0129 | Dnahc9 |
| NM\_023119 | 1.866 | 0.0156 | Eno1 |
| NM\_025588 | 1.86 | 0.00208 | Exoc2 |
| NM\_025968 | 1.85 | 0.0479 | Ltb4dh |
| ENSMUST00000090429 | 1.85 | 0.0464 | Cd59b |
| NM\_011920 | 1.848 | 0.0222 | Abcg2 |
| NM\_172496 | 1.845 | 0.0189 | Cobl |
| NM\_175563 | 1.835 | 0.0203 | Prr11 |
| NM\_025949 | 1.832 | 0.0462 | Rps6ka6 |
| XM\_143339 | 1.83 | 0.00888 | Wdr49 |
| NM\_026013 | 1.83 | 0.000681 | Tmem77 |
| NM\_008597 | 1.825 | 0.0482 | Mgp |
| NM\_001110222 | 1.825 | 0.0294 | Dcx |
| NM\_175116 | 1.823 | 0.0114 | P2ry5 |
| NM\_028696 | 1.823 | 0.00171 | Obfc2a |
| NM\_010360 | 1.821 | 0.00192 | Gstm5 |
| NM\_033561 | 1.82 | 0.00615 | Eif4h |
| NM\_177167 | 1.817 | 0.00828 | Ppm1e |
| NM\_001081477 | 1.808 | 0.0164 | Brwd3 |
| NM\_001029912 | 1.807 | 0.0359 | Zswim5 |
| NM\_183389 | 1.805 | 0.0168 | Duxbl |
| NM\_183389 | 1.805 | 0.0168 | Duxbl |
| NM\_019724 | 1.804 | 0.00317 | Mmp16 |
| NM\_027401 | 1.801 | 0.00284 | 1700010C24Rik |
| NM\_009846 | 1.795 | 0.000545 | Cd24a |
| NM\_026268 | 1.794 | 0.0408 | Dusp6 |
| NM\_009133 | 1.791 | 0.00372 | Stmn3 |
| NM\_009384 | 1.788 | 0.00374 | Tiam1 |
| NM\_181577 | 1.783 | 0.0181 | Ccdc85a |
| ENSMUST00000029259 | 1.782 | 0.0127 | Mccc1 |
| NM\_023119 | 1.779 | 0.0094 | Eno1 |
| NM\_172685 | 1.777 | 0.00177 | Slc25a24 |
| NM\_178674 | 1.774 | 0.0337 | Fbxl21 |
| NM\_023233 | 1.773 | 0.0325 | Trim13 |
| ENSMUST00000032781 | 1.773 | 0.00278 | Nox4 |
| ENSMUST00000029453 | 1.769 | 0.00302 | Vangl1 |
| NM\_177052 | 1.766 | 0.00394 | Kif6 |
| NM\_022032 | 1.764 | 0.0172 | Perp |
| NM\_025866 | 1.761 | 0.0344 | Cdca7 |
| NM\_023119 | 1.76 | 0.00799 | Eno1 |
| NM\_001085378 | 1.758 | 0.0148 | Myh7b |
| NM\_028031 | 1.754 | 0.0147 | Zdhhc13 |
| NM\_001077202 | 1.753 | 0.00507 | Hs6st2 |
| ENSMUST00000062684 | 1.752 | 0.00714 | Tmem64 |
| ENSMUST00000027606 | 1.75 | 0.00637 | Rgs2 |
| BC100412 | 1.749 | 0.00156 | 1700001E04Rik |
| ENSMUST00000021634 | 1.744 | 0.0273 | Akr1c13 |
| NM\_011627 | 1.744 | 0.00322 | Tpbg |
| NM\_197990 | 1.743 | 0.0362 | 1700025G04Rik |
| NM\_019413 | 1.741 | 0.0289 | Robo1 |
| ENSMUST00000021564 | 1.735 | 0.0239 | Smoc1 |
| NM\_001081316 | 1.731 | 0.0195 | Dsel |
| NM\_008591 | 1.731 | 0.0176 | Met |
| NM\_172597 | 1.728 | 0.0426 | Txndc16 |
| NM\_144860 | 1.717 | 0.00151 | Mib1 |
| NM\_001080995 | 1.716 | 0.00122 | 4632434I11Rik |
| BC069874 | 1.715 | 0.025 | 2810408A11Rik |
| AK143414 | 1.712 | 0.00495 | Zfp7 |
| NM\_030677 | 1.711 | 0.0308 | Gpx2 |
| NM\_030709 | 1.709 | 0.0253 | Tmprss5 |
| BC085192 | 1.709 | 0.0214 | L3mbtl3 |
| NM\_007483 | 1.706 | 0.00011 | Rhob |
| BC047214 | 1.705 | 0.00949 | Fbxl5 |
| NM\_009776 | 1.703 | 0.0147 | Serping1 |
| ENSMUST00000102777 | 1.697 | 0.0207 | Lepr |
| ENSMUST00000024724 | 1.696 | 0.028 | Crisp2 |
| BC100412 | 1.696 | 0.00573 | 1700001E04Rik |
| NM\_178705 | 1.694 | 0.0395 | Luzp2 |
| NM\_178628 | 1.685 | 0.0444 | Spg3a |
| NM\_172742 | 1.685 | 0.0322 | Mtmr10 |
| NM\_201600 | 1.684 | 0.0405 | Myo5b |
| NM\_028724 | 1.683 | 0.00308 | Rin2 |
| NM\_207229 | 1.679 | 0.0364 | Plac9 |
| NM\_207229 | 1.679 | 0.0364 | Plac9 |
| NM\_176968 | 1.676 | 0.0252 | Nt5dc1 |
| NM\_007630 | 1.673 | 0.0236 | Ccnb2 |
| AJ306625 | 1.673 | 0.00719 | Synpo2 |
| BC026813 | 1.672 | 0.0329 | 6330416L07Rik |
| NM\_176860 | 1.672 | 0.0255 | Ubash3b |
| NM\_013755 | 1.67 | 0.0381 | Gyg |
| NM\_008829 | 1.669 | 0.0441 | Pgr |
| NM\_178797 | 1.668 | 0.015 | Mlstd1 |
| XM\_884776 | 1.668 | 0.00802 | EG241989 |
| BC027537 | 1.666 | 0.00233 | Gins1 |
| NM\_178920 | 1.665 | 0.00906 | Mal2 |
| NM\_178712 | 1.664 | 0.0209 | Gpr64 |
| NM\_134130 | 1.662 | 0.0449 | Abhd3 |
| NM\_001033322 | 1.661 | 0.0454 | Gucy1a2 |
| NM\_008252 | 1.659 | 0.0297 | Hmgb2 |
| NM\_182999 | 1.658 | 0.0398 | Rnf20 |
| NM\_009704 | 1.658 | 0.0227 | Areg |
| NM\_016710 | 1.658 | 0.00314 | Nsbp1 |
| NM\_021470 | 1.657 | 0.0255 | Rnf32 |
| NM\_027759 | 1.656 | 0.0142 | Fsip1 |
| NM\_010305 | 1.654 | 0.0321 | Gnai1 |
| NM\_001033214 | 1.653 | 0.0146 | E330034G19Rik |
| ENSMUST00000042842 | 1.652 | 0.0172 | Cdon |
| NM\_009819 | 1.652 | 0.000555 | Ctnna2 |
| XM\_983501 | 1.65 | 0.0132 | EG666383 |
| NM\_183187 | 1.647 | 0.0159 | BC055107 |
| AF401531 | 1.646 | 0.0114 | Cklf |
| NM\_001007460 | 1.645 | 0.00141 | Zdhhc23 |
| NM\_178202 | 1.642 | 0.0205 | Hist1h2bp |
| NM\_019878 | 1.642 | 0.00306 | Sult1b1 |
| NM\_025284 | 1.639 | 0.00224 | Tmsb10 |
| NM\_207229 | 1.636 | 0.041 | Plac9 |
| NM\_008288 | 1.635 | 0.0246 | Hsd11b1 |
| ENSMUST00000032701 | 1.634 | 0.0303 | Tdrd12 |
| NM\_008413 | 1.634 | 0.00444 | Jak2 |
| ENSMUST00000058159 | 1.633 | 0.00999 | Cnrip1 |
| NM\_009466 | 1.632 | 0.00812 | Ugdh |
| NM\_175937 | 1.631 | 0.00554 | Cpeb2 |
| NM\_153162 | 1.631 | 0.00281 | Txnrd3 |
| NM\_028841 | 1.629 | 0.000456 | Tspan17 |
| NM\_001081208 | 1.628 | 0.0228 | Hs3st5 |
| NM\_001081189 | 1.628 | 0.00101 | Uprt |
| NM\_022332 | 1.626 | 0.0291 | St7 |
| NM\_007709 | 1.626 | 0.00164 | Cited1 |
| NM\_008252 | 1.625 | 0.0352 | Hmgb2 |
| NM\_172689 | 1.624 | 0.0123 | Ddx58 |
| NM\_016669 | 1.615 | 0.0137 | Crym |
| NM\_008646 | 1.613 | 0.0126 | Mug2 |
| NM\_001008499 | 1.609 | 0.0149 | Taar4 |
| ENSMUST00000041780 | 1.609 | 0.00143 | Endod1 |
| NM\_010930 | 1.607 | 0.0351 | Nov |
| NM\_001080818 | 1.607 | 0.0321 | Cdc14a |
| NM\_019635 | 1.605 | 0.00531 | Stk3 |
| NM\_007874 | 1.604 | 0.000857 | Reep5 |
| NM\_011326 | 1.603 | 0.0153 | Scnn1g |
| NM\_019985 | 1.603 | 0.015 | Clec1b |
| NM\_028804 | 1.603 | 0.003 | Ccdc3 |
| NM\_178202 | 1.601 | 0.0238 | Hist1h2bp |
| NM\_008252 | 1.599 | 0.0432 | Hmgb2 |
| ENSMUST00000051091 | 1.599 | 0.0119 | Hist1h2be |
| NM\_152915 | 1.598 | 0.0378 | Dner |
| NM\_007399 | 1.597 | 0.0166 | Adam10 |
| NM\_025284 | 1.597 | 0.00608 | Tmsb10 |
| NM\_009817 | 1.596 | 0.0219 | Cast |
| NM\_028615 | 1.596 | 0.0075 | Dppa2 |
| AF461091 | 1.595 | 0.000172 | Cspg5 |
| NM\_024255 | 1.594 | 0.0294 | Hsdl2 |
| ENSMUST00000029964 | 1.593 | 0.0348 | Epha7 |
| NM\_130447 | 1.593 | 0.0273 | Dusp16 |
| BC100412 | 1.591 | 0.00196 | 1700001E04Rik |
| NM\_009848 | 1.59 | 0.0246 | Entpd1 |
| NM\_153594 | 1.589 | 0.00421 | Pcmtd2 |
| NM\_007639 | 1.587 | 0.029 | Cd1d1 |
| NM\_011441 | 1.585 | 0.00441 | Sox17 |
| NM\_052976 | 1.583 | 0.0362 | Ophn1 |
| NM\_178202 | 1.581 | 0.0184 | Hist1h2bp |
| NM\_153803 | 0.645 | 0.0151 | BC038479 |
| NM\_053247 | 0.645 | 0.00795 | Lyve1 |
| XR\_034456 | 0.645 | 0.00447 | LOC668888 |
| NM\_022331 | 0.645 | 0.0024 | Herpud1 |
| NM\_025999 | 0.645 | 0.000198 | Rnf141 |
| NM\_013559 | 0.643 | 0.02 | Hsp110 |
| NM\_010800 | 0.642 | 0.0197 | Bhlhb8 |
| NM\_025790 | 0.642 | 0.000105 | Them2 |
| BC022225 | 0.641 | 0.039 | Kif12 |
| NM\_145981 | 0.641 | 0.0197 | Phyhip |
| NM\_145131 | 0.641 | 0.0182 | Pitrm1 |
| NM\_031999 | 0.641 | 0.000439 | Gpr137b |
| NM\_172927 | 0.64 | 0.0205 | E330026B02Rik |
| NM\_023913 | 0.639 | 0.0142 | Ern1 |
| NM\_180678 | 0.639 | 0.00675 | Gars |
| NM\_029851 | 0.638 | 0.00786 | Dync2h1 |
| NM\_007499 | 0.637 | 0.0227 | Atm |
| NM\_010276 | 0.637 | 0.0198 | Gem |
| NM\_008102 | 0.637 | 0.00209 | Gch1 |
| NM\_019733 | 0.636 | 0.000391 | Rbpms |
| NM\_030098 | 0.635 | 0.01 | Rnase6 |
| NM\_031169 | 0.633 | 0.0215 | Kcnmb1 |
| NM\_001011794 | 0.633 | 0.00924 | Olfr1322 |
| NM\_177708 | 0.632 | 0.0102 | Rtn4rl1 |
| NM\_207228 | 0.632 | 0.00658 | Tsga10 |
| NM\_199449 | 0.631 | 0.00118 | Zhx2 |
| U01841 | 0.631 | 0.000811 | Pparg |
| NM\_001007583 | 0.63 | 0.0175 | Best3 |
| NM\_030565 | 0.63 | 0.00391 | BC004044 |
| NM\_009767 | 0.629 | 0.00581 | Chic1 |
| NM\_133769 | 0.628 | 5.97E-05 | Cyfip2 |
| NM\_009903 | 0.627 | 0.0373 | Cldn4 |
| NM\_001004173 | 0.627 | 0.00587 | Sgpp2 |
| NM\_001081347 | 0.626 | 0.041 | Rhobtb1 |
| NM\_010612 | 0.626 | 0.00504 | Kdr |
| NM\_008018 | 0.625 | 0.0101 | Sh3pxd2a |
| NM\_018852 | 0.624 | 0.0253 | Scn9a |
| ENSMUST00000022176 | 0.623 | 0.0271 | Hmgcr |
| NM\_145491 | 0.623 | 0.0175 | Rhoq |
| NM\_173745 | 0.623 | 0.000983 | Dusp18 |
| NM\_001039934 | 0.622 | 0.000897 | Mtap2 |
| ENSMUST00000102698 | 0.62 | 0.000145 | Rapgef4 |
| NM\_177769 | 0.619 | 0.0276 | Elmod1 |
| NM\_009665 | 0.619 | 0.0076 | Amd1 |
| NM\_019802 | 0.619 | 0.00132 | Ggcx |
| NM\_009665 | 0.618 | 0.0162 | Amd1 |
| NM\_011957 | 0.618 | 0.0139 | Creb3l1 |
| NM\_018882 | 0.617 | 0.00504 | Gpr56 |
| NM\_011406 | 0.615 | 0.0377 | Slc8a1 |
| NM\_172537 | 0.615 | 0.00204 | Sema6d |
| NM\_026053 | 0.614 | 0.0154 | Gemin6 |
| NM\_007444 | 0.614 | 0.0149 | Amd2 |
| AK122385 | 0.614 | 0.0117 | Rab3gap2 |
| NM\_029787 | 0.613 | 0.00196 | Cyb5r3 |
| NM\_001099323 | 0.611 | 0.00184 | RP23-211P15.2 |
| NM\_013682 | 0.61 | 0.0164 | T2 |
| NM\_011311 | 0.608 | 0.0494 | S100a4 |
| NM\_173028 | 0.607 | 0.000867 | Vps13a |
| NM\_007674 | 0.606 | 0.0172 | Cdx4 |
| NM\_148922 | 0.606 | 0.00211 | Mdm1 |
| NM\_015737 | 0.605 | 0.0142 | Galnt4 |
| NM\_026004 | 0.605 | 0.0011 | Nt5c3 |
| NM\_023503 | 0.604 | 0.012 | Ing2 |
| NM\_010290 | 0.604 | 0.00494 | Gjd2 |
| NM\_198419 | 0.602 | 0.0214 | Phactr1 |
| NM\_001033316 | 0.602 | 0.0203 | Ffar3 |
| NM\_013885 | 0.602 | 0.00618 | Clic4 |
| ENSMUST00000026475 | 0.602 | 0.00217 | Ddit3 |
| ENSMUST00000028780 | 0.6 | 0.0122 | Chac1 |
| NM\_021331 | 0.599 | 0.0213 | G6pc2 |
| NM\_007444 | 0.599 | 0.0154 | Amd2 |
| NM\_009218 | 0.599 | 0.00573 | Sstr3 |
| NM\_177606 | 0.598 | 0.0349 | Plekhh2 |
| ENSMUST00000059595 | 0.597 | 0.0176 | Prkca |
| NM\_130878 | 0.597 | 0.00252 | Pcdh21 |
| NM\_008212 | 0.597 | 0.00111 | Hadh |
| ENSMUST00000031069 | 0.596 | 0.00495 | Sepsecs |
| NM\_181751 | 0.595 | 0.026 | Gpr119 |
| NM\_008855 | 0.595 | 0.0098 | Prkcb1 |
| ENSMUST00000046188 | 0.595 | 0.000207 | EG328644 |
| AK047968 | 0.594 | 0.0117 | Zdhhc20 |
| D82072 | 0.592 | 0.00528 | Ptgds2 |
| ENSMUST00000020497 | 0.59 | 0.00386 | Aldh1l2 |
| NM\_175272 | 0.587 | 0.00744 | Nav2 |
| AK043588 | 0.586 | 0.0122 | BC026590 |
| NM\_011864 | 0.586 | 0.0029 | Papss2 |
| ENSMUST00000033161 | 0.586 | 0.00257 | Scnn1b |
| NM\_033525 | 0.584 | 0.0151 | Npnt |
| ENSMUST00000102925 | 0.584 | 0.00537 | Uap1l1 |
| ENSMUST00000045557 | 0.584 | 4.64E-05 | Slc7a5 |
| ENSMUST00000052700 | 0.581 | 0.039 | Ffar1 |
| ENSMUST00000001713 | 0.581 | 0.012 | Gstt1 |
| NM\_026053 | 0.576 | 0.00658 | Gemin6 |
| NM\_175007 | 0.575 | 0.0303 | Amph |
| ENSMUST00000102568 | 0.575 | 0.0156 | Phactr4 |
| NM\_028247 | 0.574 | 0.00187 | Slc16a10 |
| NM\_133995 | 0.573 | 0.0401 | Upb1 |
| NM\_022030 | 0.573 | 0.0315 | Sv2a |
| NM\_019516 | 0.573 | 0.0026 | Lgals12 |
| NM\_008638 | 0.572 | 0.0005 | Mthfd2 |
| NM\_027398 | 0.57 | 0.0101 | Kcnip1 |
| NM\_018878 | 0.567 | 0.000501 | Paxip1 |
| ENSMUST00000021443 | 0.566 | 0.00814 | Mthfd1 |
| NM\_015781 | 0.564 | 0.00738 | Nap1l1 |
| NM\_010700 | 0.563 | 0.00442 | Ldlr |
| NM\_178114 | 0.562 | 0.0094 | Amigo2 |
| NM\_001080780 | 0.559 | 0.0115 | Ret |
| NM\_025436 | 0.558 | 0.0112 | Sc4mol |
| XM\_147850 | 0.557 | 0.0224 | BC030046 |
| AK009333 | 0.555 | 0.00714 | 2310014D11Rik |
| NM\_026950 | 0.553 | 0.0137 | Ociad2 |
| ENSMUST00000112701 | 0.552 | 0.028 | Cdh7 |
| AY566864 | 0.552 | 0.0158 | A1cf |
| XM\_001475233 | 0.55 | 0.00495 | 4932438A13Rik |
| ENSMUST00000069011 | 0.55 | 0.000204 | Ang |
| NM\_153598 | 0.549 | 0.00256 | Ugt2b34 |
| NM\_001033175 | 0.545 | 0.000454 | Cln6 |
| ENSMUST00000033201 | 0.542 | 0.00621 | Anks4b |
| NM\_001081388 | 0.535 | 0.00255 | Rimbp2 |
| NM\_011995 | 0.535 | 0.00079 | Pclo |
| XM\_147850 | 0.531 | 0.00446 | BC030046 |
| NM\_001081243 | 0.53 | 0.000405 | Filip1 |
| NM\_133882 | 0.524 | 0.00763 | C8b |
| ENSMUST00000032198 | 0.523 | 0.0197 | Usp18 |
| NM\_001081205 | 0.523 | 0.0047 | Npal1 |
| NM\_009377 | 0.522 | 0.00237 | Th |
| NM\_007514 | 0.521 | 0.0416 | Slc7a2 |
| NM\_011299 | 0.521 | 0.00139 | Rps6ka2 |
| NM\_001081262 | 0.517 | 0.0227 | 4932431H17Rik |
| NR\_002900 | 0.507 | 0.0153 | Snora69 |
| NM\_145399 | 0.506 | 0.00214 | Scgn |
| NM\_153420 | 0.505 | 0.00391 | Acpl2 |
| ENSMUST00000025866 | 0.505 | 0.00356 | Vldlr |
| NM\_026185 | 0.501 | 0.00619 | 1300007F04Rik |
| NM\_001012723 | 0.5 | 0.0237 | Wfdc16 |
| NM\_001005423 | 0.498 | 0.0074 | Mreg |
| NM\_031197 | 0.498 | 0.0038 | Slc2a2 |
| NM\_001003913 | 0.497 | 0.00231 | Mars |
| NM\_021332 | 0.497 | 0.000388 | Glp1r |
| XM\_911780 | 0.496 | 0.0323 | EG626952 |
| NM\_001081014 | 0.491 | 0.000929 | Dennd4c |
| NM\_031250 | 0.49 | 0.00179 | Ucn3 |
| NM\_016717 | 0.489 | 0.0236 | Scly |
| NM\_011374 | 0.482 | 0.0158 | St8sia1 |
| XM\_147850 | 0.476 | 0.00707 | BC030046 |
| NM\_021883 | 0.475 | 0.0394 | Tmod1 |
| NM\_001080815 | 0.475 | 0.000876 | Gipr |
| ENSMUST00000058126 | 0.473 | 0.0174 | Nr1h4 |
| NM\_022312 | 0.472 | 0.0046 | Tnr |
| NM\_011843 | 0.472 | 0.00255 | Mbc2 |
| NM\_018869 | 0.468 | 0.00426 | Grk5 |
| ENSMUST00000044231 | 0.467 | 0.00773 | Serpina10 |
| NM\_183168 | 0.456 | 0.00771 | P2ry6 |
| NM\_016863 | 0.451 | 0.000185 | Fkbp1b |
| NM\_020279 | 0.445 | 0.00234 | Ccl28 |
| ENSMUST00000060304 | 0.443 | 0.00332 | Tox3 |
| NM\_001081346 | 0.438 | 0.0305 | Rtkn2 |
| NM\_021455 | 0.438 | 0.00587 | Mlxipl |
| NM\_146214 | 0.432 | 0.00642 | Tat |
| NM\_015744 | 0.426 | 0.00227 | Enpp2 |
| ENSMUST00000049389 | 0.418 | 0.0035 | Zdhhc2 |
| NM\_018857 | 0.414 | 0.039 | Msln |
| ENSMUST00000072299 | 0.399 | 0.00873 | Vsnl1 |
| NM\_019775 | 0.392 | 0.0264 | Cpb2 |
| NM\_011832 | 0.363 | 0.00231 | Insrr |
| NM\_008509 | 0.322 | 0.00291 | Lpl |
| NM\_021391 | 0.322 | 0.000233 | Ppp1r1a |
| NM\_026853 | 0.319 | 0.0122 | Asb11 |
| NM\_026935 | 0.285 | 0.017 | Sult1c2 |
| NM\_007843 | 0.226 | 0.0141 | Defb1 |

**Table S2. Transcripts that were changed in Sox17-GOF islets.**

List of transcripts change by >1.55 fold in Sox17-GOF islets. Red highlighted genes were upregulated, blue highlighted genes were downregulated.

**Table S3: Gene Ontology analysis of Biological Process that are significantly affected in Sox17-GOF islets.**

**Pathways and processes associated with upregulated genes:**

|  |  |  |
| --- | --- | --- |
| **Category** | **Gene Ontology (GO) ID** | **Name** |
| GO: Biological Process | GO:0048468 | cell development |
|  | GO:0007409 | axonogenesis |
|  | GO:0051239 | Regulation of multicellular organismal process |
|  | GO:0000904 | cell morphogenesis involved in differentiation |
|  | GO:0048812 | neuron projection morphogenesis |
|  | GO:0048667 | cell morphogenesis involved in neuron differentiation |
|  | GO:0008038 | neuron recognition |
| **Pathways and processes associate with downregulated genes:** |  |  |
| **Category** | **Gene Ontology (GO) ID** | **Name** |
| GO: Biological Process | GO:0002790 | peptide secretion |
|  | GO:0030073 | insulin secretion |
|  | GO:0030072 | peptide hormone secretion |
|  | GO:0015833 | peptide transport |
|  | GO:0046879 | hormone secretion |
|  | GO:0009914 | hormone transport |
|  | GO:0002791 | regulation of peptide secretion |
|  | GO:0090087 | regulation of peptide transport |
|  | GO:0090276 | regulation of peptide hormone secretion |
|  | GO:0003001 | generation of a signal involved in cell-cell signaling |
|  | GO:0023061 | signal release |
|  | GO:0046883 | regulation of hormone secretion |
|  | GO:0050796 | regulation of insulin secretion |
|  | GO:0032879 | regulation of localization |
|  | GO:0010817 | regulation of hormone levels |
|  | GO:0051049 | regulation of transport |
|  | GO:0032940 | secretion by cell |
|  | GO:0010646 | regulation of cell communication |
|  | GO:0009749 | response to glucose stimulus |
|  | GO:0060341 | regulation of cellular localization |
|  | GO:0046903 | secretion |
|  | GO:0009746 | response to hexose stimulus |
|  | GO:0034284 | response to monosaccharide stimulus |
|  | GO:0051046 | regulation of secretion |
|  | GO:0006399 | tRNA metabolic process |
|  | GO:0006082 | organic acid metabolic process |
|  | GO:0033500 | carbohydrate homeostasis |
|  | GO:0042593 | glucose homeostasis |
|  | GO:0009743 | response to carbohydrate stimulus |
|  | GO:0009308 | amine metabolic process |
|  | GO:0051649 | establishment of localization in cell |
|  | GO:0018193 | peptidyl-amino acid modification |
|  | GO:0032024 | positive regulation of insulin secretion |
|  | GO:0019752 | carboxylic acid metabolic process |
|  | GO:0043436 | oxoacid metabolic process |
|  | GO:0044106 | cellular amine metabolic process |
|  | GO:0006520 | cellular amino acid metabolic process |
|  | GO:0002793 | positive regulation of peptide secretion |
|  | GO:0042180 | cellular ketone metabolic process |
|  | GO:0006112 | energy reserve metabolic process |
|  | GO:0007267 | cell-cell signaling |
|  |  |  |

**Table S3. Gene ontology analysis of biological pathways and processes associated with SOX17 regulated transcripts**

List of gene ontology of the biological process that are involved in the Sox17-misregulated genes cluster in the Sox17-GOF islets microarray by 1.30 fold change and above(upregulated genes cluster in red, downregulated genes cluster in blue).

**Table S4: PCR primers for microarray genes validation.**

|  |  |
| --- | --- |
| **Genes** | **QPCR Primers** |
| Insulin | CTC CCA AAG GGC AAG CAG  GTG ACC AGC TAT AAT CAG AGA CCA |
| Pdx1 | CCA CCC CAG TTT ACA AGC TC  TGT AGG CAG TAC GGG TCC TC |
| Glut2 | CCGAACTGGAAGGAACTCAG  GGATTAAGCGGACAATTCCA |
| Foxo1 | TGCTGTGAAGGGACAGATTG  GAGTGGATGGTGAAGAGCGT |
| Atf4 | TTGTCCGTTACAGCAACACTG  GCAGCAGCACCAGGCTCT |
| GLP1R | GACCCTCAGCTGTGCAGAA  CCAGGTTCCTTCGTGAATGT |
| HDAC6 | GGGTCTCCAAGGAGGGAAT  CTTGCTGGTGGCCGTATTAT |
| Prkca | AACGAACTCATGGCACCTCT  CACTGCACCGACTTCATCTG |
| Pkd1 | TTCACCAGGAGCCCTATGTC  AGACGCTAGGGCCGAGTCT |
| Lpl | TGTGTCTTCAGGGGTCCTTAG  TTTGGCTCCAGAGTTTGACC |
| Defb1 | GAGCGGAGACAGAATCCTCC  TCTTTTCTCCCAGATGGAGC |
| Cpb2 | AAAACCTGGCCACTCTGAAA  AGGGCTTGCTCACAAGTCAC |
| Vilip-1 | TCACCGTTCTTGTCGAAGGT  TGAACCTCGAGGAGTTCCAG |
| Insrr | ACAGGTTCCAGCTCTGGGTT  TGACCTGCTCAGCTTCATTG |
| Rab27a | CATCCGACATGATGGAGAAC  AATCTAGCACTGCAGGGACG |
| Wfs | ACCTCAGTCTGTGCTTTGGG  GGGAAGAAACGGACAGAGC |
| Ppp1r1a | ACAAGTGTGGCAGGGGTG  CCCACGGAAGATCCAGTTTA |
| Gsta4 | CGTCCCCTGCCATTAAAGTA  GCTTCTTTCTCGAGTGCCTG |
| Mobp | TCCTTGGCCATTTTCTGACT  AATGAGAGCAAGACAAGCGG |
| Lipf | TGCACCTCCAAATGCAGATA  GGCAACCAGAGAAGCAGAAT |
| Use1 | TTCCTCATGTCCACCTCACA  TTTGCAGTCTAGGGCACGTT |
| Rtn1 | AGAAGAGCAGCAGCAGGAAG  ACTGTGTGTGGAGCAACTGG |

**Supplementary References.**

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