**Appendix 5.** Genes down -regulated in response to PNN reduction

| **Gene symbol** | **P-adj** | **Log2FoldChange** | **Gene name** |
| --- | --- | --- | --- |
| ABCA4 | 2.33E-15 | -2.14 | ATP-binding cassette, sub-family A (ABC1), member 4 |
| ABCA4 | 3.78E-14 | -2.46 | ATP-binding cassette, sub-family A (ABC1), member 4 |
| FGD3 | 1.50E-09 | -2.02 | FYVE, RhoGEF and PH domain containing 3 |
| INSL4 | 2.80E-06 | -1.82 | insulin-like 4 (placenta) |
| IGFL1 | 4.07E-06 | -1.68 | IGF-like family member 1 |
| IGFBP5 | 3.46E-05 | -2.05 | insulin-like growth factor binding protein 5 |
| VGLL1 | 3.46E-05 | -1.85 | vestigial-like family member 1 |
| **PNN** | **3.46E-05** | **-1.14** | **pinin** |
| UBD | 3.99E-05 | -1.77 | ubiquitin D |
| CFI | 9.25E-05 | -1.61 | complement factor I |
| PCSK9 | 9.25E-05 | -1.27 | proprotein convertase subtilisin/kexin type 9 |
| SLC1A3 | 0.00024818 | -1.04 | solute carrier family 1 (glial high affinity glutamate transporter), member 3 |
| DHRS3 | 0.00057796 | -1.28 | dehydrogenase/reductase (SDR family) member 3 |
| VGLL1 | 0.00132719 | -1.65 | vestigial-like family member 1 |
| CDH5 | 0.00132719 | -1.49 | cadherin 5, type 2 (vascular endothelium) |
| RPS24 | 0.00133766 | -0.99 | ribosomal protein S24 |
| LINC01559 | 0.00180566 | -1.05 | long intergenic non-protein coding RNA 1559 |
| RPS24 | 0.00238888 | -0.94 | ribosomal protein S24 |
| CLEC7A | 0.00263968 | -1.49 | C-type lectin domain family 7, member A |
| RARRES3 | 0.00294625 | -1.07 | retinoic acid receptor responder (tazarotene induced) 3 |
| FAT3 | 0.00362295 | -1.01 | FAT atypical cadherin 3 |
| PBXIP1 | 0.00467924 | -0.95 | pre-B-cell leukemia homeobox interacting protein 1 |
| HSPA8P5 | 0.00518231 | -3.10 | heat shock 70kDa protein 8 pseudogene 5 |
| NEDD9 | 0.00518231 | -1.65 | neural precursor cell expressed, developmentally down-regulated 9 |
| MIR4417 | 0.00657578 | -0.92 | microRNA 4417 |
| ZBTB8B | 0.00670667 | -1.92 | zinc finger and BTB domain containing 8B |
| STEAP4 | 0.0076751 | -0.89 | STEAP family member 4 |
| ADARB2 | 0.0099319 | -2.67 | adenosine deaminase, RNA-specific, B2 (non-functional) |
| MMP7 | 0.01171309 | -1.72 | matrix metallopeptidase 7 (matrilysin, uterine) |
| RNU7-44P | 0.01227464 | -0.93 | RNA, U7 small nuclear 44 pseudogene |
| LINC00601 | 0.01250431 | -2.62 | long intergenic non-protein coding RNA 601 |
| MTAPP2 | 0.01411539 | -0.89 | methylthioadenosine phosphorylase pseudogene 2 |
| TMSB15B | 0.01708558 | -1.24 | thymosin beta 15B |
| FREM2 | 0.0195056 | -1.08 | FRAS1 related extracellular matrix protein 2 |
| FAM133CP | 0.01973188 | -1.10 | family with sequence similarity 133, member A pseudogene |
| COLQ | 0.02144739 | -1.14 | collagen-like tail subunit (single strand of homotrimer) of asymmetric acetylcholinesterase |
| UBE3AP1 | 0.02342922 | -1.01 | ubiquitin protein ligase E3A pseudogene 1 |
| IFITM2 | 0.02491681 | -1.72 | interferon induced transmembrane protein 2 |
| ANO2 | 0.02502206 | -1.18 | anoctamin 2, calcium activated chloride channel |
| TNNC1 | 0.02671892 | -1.89 | troponin C type 1 (slow) |
| SLCO2A1 | 0.0271903 | -1.14 | solute carrier organic anion transporter family, member 2A1 |
| SAT1 | 0.03924351 | -0.78 | spermidine/spermine N1-acetyltransferase 1 |
| MIR6809 | 0.04097693 | -0.95 | microRNA 6809 |
| ADCY5 | 0.04104954 | -0.97 | adenylate cyclase 5 |
| APCDD1 | 0.04307747 | -1.27 | adenomatosis polyposis coli down-regulated 1 |
| HMGCR | 0.0438836 | -0.78 | 3-hydroxy-3-methylglutaryl-CoA reductase |
| LYPD2 | 0.04459126 | -2.50 | LY6/PLAUR domain containing 2 |
| LDLR | 0.04662066 | -0.77 | low density lipoprotein receptor |
| ATP6V1B1-AS1 | 0.04666902 | -0.95 | ATP6V1B1 antisense RNA 1 |
| STAU2-AS1 | 0.04780391 | -1.81 | STAU2 antisense RNA 1 |