|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Gene**  | **IPA Disease and Function** | **Function** | **log2FC** | **P-value** |
| AARD | C, D, E | Not specified  | 3.43 | 1.81E-02 |
| AGT | A, B, C, D, E | This protein is a key component of the renin-angiotensin system (RAS). | 2.27 | 3.05E-02 |
| ALPK3 | C, D, E | Protein onvolved in the differentiation of cardiomyocytes. | -2.70 | 7.71E-03 |
| BIK | A, B, C, D, E | Plays a role in apoptosis by accelerating programmed cell death.  | 2.52 | 4.23E-02 |
| BMF | A, B, C, D, E | It is a member of the BCL2 protein family which senses cellular damage and promotes apoptosis. | 2.33 | 2.20E-02 |
| C16orf96 | C, D, E | Not specified  | 3.21 | 5.38E-03 |
| C2CD4A | C, D, E | C2 Calcium Dependent Domain Containing 4A. It may function in the regulation of inflammation and cell adhesion.  | 3.33 | 1.82E-04 |
| CD36 | A, B, C, D, E | Receptor that can bind a multitude of ligands and it is involved in several biological process including angiogenesis, inflammatory response and fatty acid metabolism.  | 2.48 | 1.96E-02 |
| CHST9 | C, D, E | Member of the sulfotransferase 2 family. It is an enzyme that is localized in the Golgi membrane.  | 3.14 | 7.71E-03 |
| CLEC6A | C, D, E | Calcium-dependent lectin that functions as a pattern recognition receptor (PRR) and therefore it plays a role in the innate immune system. | -4.63 | 4.66E-02 |
| CST7 | C, D | This is a glycosylated cysteine protease inhibitor. Although its functions are hypothesised to be linked to immune regulation, it expression is particularly known to be connected to some malignant tumours. | 5.40 | 4.96E-03 |
| CTSO | C, D | Proteolytic enzyme involved in the physiological turnover of cellular proteins promoting their degratation.  | 2.13 | 1.17E-02 |
| DRD1 | C, D, E | Receptor of dopamine | 5.92 | 6.76E-03 |
| FBLL1 | C, D | This protein is a methyltransferase, which acts on both RNAs and proteins. | 2.02 | 2.02E-02 |
| FZD7 | C, D, E | Receptor for Wnt proteins.  | 5.34 | 3.92E-03 |
| GBP1 | C, D, E | Hydrolytic enzyme that has both antiviral and antimicrobial activities.  | 2.02 | 3.20E-02 |
| GRIN3A | C, D, E | Subunit of NMDA receptors and therefore it is crucial in the CNS.  | -2.26 | 2.93E-02 |
| HAS2 | C, D, E | Protein which is essential to hyaluronan (a component extracellular matrices) synthesis and its overexpression has been linked to metastatic processes. | 4.47 | 4.98E-02 |
| HIPK4 | C, D, E | Kinase that mediates TP53 phosphorylation and repression. | 5.98 | 7.72E-03 |
| HIVEP3 | C, D, E | Transcription factor with regulative properties of NFkB.  | 1.22 | 4.58E-02 |
| IGKC | C, D | Constant region of immunoglobulin light chains. | -4.01 | 4.72E-02 |
| INMT | C, D, E | Enzyme involved in the detoxification from selenium compounds. | -4.88 | 4.29E-03 |
| ISM1 | A, C, D, E | Acts as an angiogenesis inhibitor. | -2.01 | 3.62E-02 |
| KAZN | C, D, E | Component of the cornified envelope of keratinocytes.  | 2.13 | 4.20E-02 |
| KCNB2 | C, D, E | Voltage-gated potassium channel that is mainly localized in the brain and smooth muscle cells. | 1.95 | 1.40E-02 |
| KCNS1 | C, D, E | Potassium channel subunit that is associated with KCNB1 and KCNB2 to form a functional channel. | 4.85 | 1.82E-02 |
| KLHL1 | C, D, E | Protein that is probably involved in the organization of the actin cytoskeleton of brain cells. | 2.81 | 1.54E-02 |
| LRP1B | C, D, E | Member of the low density lipoprotein (LDL) receptor family. | 0.95 | 4.93E-02 |
| LRRIQ4 | C, D, E | Not specified  | 4.93 | 4.75E-02 |
| MMP13 | C, D, E | Matrix metalloproteinase that degrades extracellular matrix that is involved in both physiological and pathological (metastasis) processes.  | 4.87 | 2.75E-02 |
| NHLRC1 | C, D, E | E3 ubiquitin-protein ligase. | -1.60 | 2.30E-02 |
| NIPSNAP3B | C, D, E | Member of a protein family with probable roles in vesicular trafficking | 4.70 | 2.91E-02 |
| NUDT11 | C, D, E | Phosphohydrolases involved in signal transduction to various signals. | 2.77 | 1.12E-02 |
| OAS2 | C, D, E | Interferon-induced enzyme which regulates the innate immune response to viruses.  | 5.59 | 2.00E-02 |
| P2RY8 | C, D, E | Probable receptor for purines coupled to G-proteins. | 2.18 | 3.59E-02 |
| PAK3 | C, D, E | Serine/threonine kinase that is involved in several signaling pathways including cytoskeleton regulation, cell migration, or cell cycle regulation.  | -0.93 | 4.73E-02 |
| PHLDA2 | C, D, E | Protein that regulates placenta growth but is also considered a tumour suppressor. | 1.39 | 2.64E-02 |
| POU6F2 | C, D, E | Tumour suppressor and transcription factor. | 4.65 | 2.93E-02 |
| PPM1H | C, D, E | Dephosphorylates that inhibits proteasomal degradation.  | -1.97 | 3.32E-02 |
| PRR15 | C | May have a role in proliferation and/or differentiation. | -1.87 | 2.42E-02 |
| PRSS38 | C, D, E | Not specified  | -4.30 | 2.43E-02 |
| RAPGEF2 | C, D, E | Guanine nucleotide exchange factor (GEF) that mediates intracellular signaling cascades.  | -0.71 | 1.59E-02 |
| RP1L1 | C, D, E | It promotes the differentiation of photoreceptors. | 4.61 | 3.18E-02 |
| SHISA2 | C, D, E | This protein attenuates both FGF and WNT signaling.  | -4.97 | 3.23E-03 |
| SLC22A9 | C, D, E | Transporter of organic anion (sodium-independent). | -2.35 | 4.79E-02 |
| SLC26A3 | C, D, E | It is involved in the absorption of intestinal chloride.  | 4.97 | 1.61E-02 |
| SLC30A10 | C, D, E | Protein crucial for manganese transport. | 1.57 | 3.75E-02 |
| SLC38A8 | C, D, E | Putative antiporter for amino acid/proton (sodium-dependent). | 3.07 | 2.45E-02 |
| SSC4D | C, D, E | Member of the scavenger receptor cysteine-rich superfamily. | 4.26 | 1.74E-02 |
| STRA8 | C, D, E | Retinoic acid-responsive protein. | 5.13 | 1.47E-02 |
| TEDDM1 | C, D, E | Not specified  | -4.42 | 1.96E-02 |
| THEM6 | C, D | Not specified  | 0.92 | 3.88E-02 |
| TMEM132B | C, D, E | Not specified  | -1.90 | 7.34E-03 |
| TMEM249 | C, D, E | Not specified  | -4.49 | 2.60E-02 |
| UPK2 | C, D | Urothelium-specific integral membrane protein. | 2.18 | 3.65E-04 |
| WNT3 | A, B, C, D, E | This gene is a member of the WNT gene family.  | 4.67 | 2.88E-02 |
| ZNF14 | C, D, E | May be involved in transcriptional regulation. | -2.22 | 1.56E-02 |
| ZNF157 | C, D, E | May be involved in transcriptional regulation. | -2.86 | 3.51E-02 |
| ZNF556 | C, D, E | May be involved in transcriptional regulation. | -1.38 | 4.56E-02 |
| ZNF716 | C, D, E | May be involved in transcriptional regulation. | 4.93 | 4.75E-02 |