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| **UPREGULATED GENES** | |
| **GENE** | **FUNCTION** |
| EMILIN2 | May be responsible for anchoring smooth muscle cells to elastic fibers, and may be involved not only in the formation of the elastic fiber, but also in the processes that regulate vessel assembly. |
| POU3F4 | Probable transcription factor which exert its primary action widely during early neural development and in a very limited set of neurons in the mature brain. |
| VEPH1 | Interacts with TGF-beta receptor type-1 (TGFBR1) and inhibits dissociation of activated SMAD2 from TGFBR1, impeding its nuclear accumulation and resulting in impaired TGF-beta signaling.May also affect FOXO, Hippo and Wnt signaling. |
| DTHD1 | This gene encodes a protein which contains a death domain. Death domain-containing proteins function in signaling pathways and formation of signaling complexes, as well as the apoptosis pathway. Alternative splicing results in multiple transcript variants. |
| PI16 | May inhibit cardiomyocyte growth. |
| **DOWNREGULATED GENES** | |
| **GENE** | **FUNCTION** |
| TBX5 | NA-binding protein that regulates the transcription of several genes and is involved in heart development and limb pattern formation |
| IFITM1 | IFN-induced antiviral protein which inhibits the entry of viruses to the host cell cytoplasm, permitting endocytosis, but preventing subsequent viral fusion and release of viral contents into the cytosol. |
| LAMA2 | Binding to cells via a high affinity receptor, laminin is thought to mediate the attachment, migration and organization of cells into tissues during embryonic development by interacting with other extracellular matrix components. |
| CAV2 | May act as a scaffolding protein within caveolar membranes. Interacts directly with G-protein alpha subunits and can functionally regulate their activity. |
| TNN | During endochondral bone formation, inhibits proliferation and differentiation of proteoblasts mediated by canonical WNT signaling. In tumors, stimulates angiogenesis by elongation, migration and sprouting of endothelial cells |