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|  Table S6: Genes shared by patients I1 and II1 but not by patient II7  |
| Gene | Gene function | Expression |
| lymphatic | endothelial | Lymph nodes | Smooth muscle | Dentritic cells | T cells (CD4+) | T cells (CD8+) | B lymphoblasts |
| ANP32B | Multifunctional protein working as a cell cycle progression factor as well as a cell survival factor. | +++ | +++ | +++ | +++ | +++ | +++ | +++ | +++ |
| Required for the progression from the G1 to the S phase. Anti-apoptotic protein which functions as a caspase-3 |
| inhibitor. Has no phosphatase 2A (PP2A) inhibitor activity (By similarity). Exhibits histone chaperone |
| properties, stimulating core histones to assemble into a nucleosome |
| CDC27 | Cell division defect  | + | + | + | + | + | + | + | + |
| Increased S DNA content,  |
| Increased cell death HMECs cell |
| Increased cell death in breast cell |
| Increased number of mitotic  |
| Synthetic lethal with Ras |
| CSRP2BP | Component of the ATAC complex, a complex with histone acetyltransferase activity on histones H3 and H4. | + | + | + | + | + | + | + | + |
| May function as a scaffold for the ATAC complex to promote ATAC complex stability. Has also weak histone |
| acetyltransferase activity toward histone H4. Required for the normal progression through G1 and G2/M phases of the cell cycle |
| CTBP2 |  Corepressor targeting diverse transcription regulators; Functions in brown adipose tissue (BAT) differentiation |  | ++ | + | ++ | ++ | + | + | ++ |
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|  Table S6: Genes shared by patients I1 and II1 but not by patient II7 |
| Gene | Gene function  | Expression |
| lymphatic | endothelial | Lymph nodes | Smoothmuscle  | Dentritic cells | T cells (CD4+) |  T cells (CD8+) | B lymphoblasts |
| DMD | Anchors the extracellular matrix to the cytoskeleton via F-actin. |  | + | + | + | + | + | + | + |
| Ligand for dystroglycan |
| Component of the dystrophin-associated glycoprotein complex which accumulates at the neuromuscular junction (NMJ) and at a variety of synapses in the peripheral and central nervous systems and has a structural function in stabilizing the sarcolemma. |
| DPYSL4 | Also implicated in signaling events and synaptic transmission |  | + | + | + | + | + | + | + |
| Necessary for signaling by class 3 semaphorins and subsequent remodeling of the cytoskeleton. |
| Plays a role in axon guidance, neuronal growth cone collapse and cell migration |
| FBP1 | Catalytic activity: D-fructose 1,6-bisphosphate + H(2)O = D-fructose 6-phosphate + phosphate |  | + | + | + | + | + | + | + |
| Enzyme regulation: Subject to complex allosteric regulation.  |
| The enzyme can assume an active R-state, or an inactive T-state |
| Intermediate conformations may exist. AMP acts as allosteric inhibitor.  |
| AMP binding affects the turnover of bound substrate and not the affinity for substrate.  |
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| FLT4 | Promotes proliferation, survival and migration of endothelial cells, and regulates angiogenic sprouting. | + | ++ | + | + | + | + | + | + |
| Signaling by activated FLT4 leads to enhanced production of VEGFC, and to a lesser degree VEGFA, thereby creating a positive feedback loop that enhances FLT4 signaling. |
| Modulates KDR signaling by forming heterodimers. The secreted isoform 3 may function as a decoy receptor for VEGFC and/or VEGFD and play an important role as a negative regulator of VEGFC-mediated lymphangiogenesis and angiogenesis. |
| Binding of vascular growth factors to isoform 1 or isoform 2 leads to the activation of several signaling cascades; |
| Mediates activation of the MAPK1/ERK2, MAPK3/ERK1 signaling pathway, of MAPK8 and the JUN signaling pathway, and of the AKT1 signaling pathway. |
| FRMD3 | Putative tumor suppressor gene that may be implicated in the origin and progression of lung cancer |  |  |  |  |  |  |  |  |
| GGT1 | Cleaves the gamma-glutamyl bond of extracellular glutathione (gamma-Glu-Cys-Gly), glutathione conjugates, and other gamma-glutamyl compounds. The metabolism of glutathione releases free glutamate and the dipeptide, cysteinyl-glycine, which is hydrolyzed to cysteine and glycine by dipeptidases. |  |  |  |  |  |  |  |
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| GGT1 | Initiates extracellular glutathione (GSH) breakdown, provides cells with a local cysteine supply and contributes to maintain intracellular GSH level. |  |  |  |  |  |  |  |  |
| It is part of the cell antioxidant defense mechanism. Isoform 3 seems to be inactive |
| immunoglobulin superfamily member 3,highly expressed in placenta,kidney and lung |
| IGSF3 | immunoglobulin superfamily member 3,highly expressed in placenta,kidney and lung | + | + | + | + | + | + | + | + |
| MCEE | methylmalonyl-CoA epimerase activity | + | + | + | + | + | + | + | + |
| PABPC3 | Binds the poly(A) tail of mRNA. May be involved in cytoplasmic regulatory processes of mRNA metabolism. | ++++ | ++++ | ++++ | ++++ | ++++ | ++++ | ++++ | ++++ |
| Binds poly(A) with a slightly lower affinity as compared to PABPC1  |
| PCDHA13 | Potential calcium-dependent cell-adhesion protein. |  |  |  |  |  |  |  |  |
| May be involved in the establishment and maintenanceof specific neuronal connections in the brain |
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