**GeneID:** 121905205

**Symbol:** pear1

**Description:** platelet endothelial aggregation receptor 1

**Other designations:** platelet endothelial aggregation receptor 1

**log2 Fold Change:** 3.19733532283723

**Adjusted p-value:** 1.65235820523692e-119

**PubMed Search:**

<https://pubmed.ncbi.nlm.nih.gov/?term=%22pear1%22+%2B+%22ligand%22&sort=date>

**Findings:**

* <https://pubmed.ncbi.nlm.nih.gov/36792666/>
  + SVEP1 is an endogenous ligand for the orphan receptor PEAR1
    - SVEP1 signals through PEAR1 to activate AKT and mTOR signaling
* <https://pubmed.ncbi.nlm.nih.gov/36695374/>
  + Heparin and heparin proteoglycan-mimetics activate platelets via PEAR1 and PI3Kβ
* <https://pubmed.ncbi.nlm.nih.gov/25713122/>
  + A Human Platelet Receptor Protein Microarray Identifies the High Affinity Immunoglobulin E Receptor Subunit α (FcεR1α) as an Activating Platelet Endothelium Aggregation Receptor 1 (PEAR1) Ligand
* <https://pubmed.ncbi.nlm.nih.gov/33356751/>
  + Is the endogenous ligand for PEAR1 a proteoglycan: clues from the sea

**GeneID:** 121905054

**Symbol:** kitb

**Description:** KIT proto-oncogene, receptor tyrosine kinase b

**Other designations:** KIT proto-oncogene, receptor tyrosine kinase b

**log2 Fold Change:** 6.9696057226272

**Adjusted p-value:** 3.18093948973572e-83

**PubMed Search:**

<https://pubmed.ncbi.nlm.nih.gov/?term=%22kitb%22+%2B+%22ligand%22&sort=date>

**Findings:**

* <https://pubmed.ncbi.nlm.nih.gov/24243489/>
  + Differential regulation of Kit ligand A expression in the ovary by IGF-I via different pathways
  + “Kit ligand (KITL) plays indispensable roles both in primordial follicle activation and in the maintenance of meiotic arrest of the oocyte. The regulation of KITL expression in the ovary, however, remains largely unknown. In the zebrafish, there are 2 paralogues of KITL, kitlga and kitlgb, and 2 Kit receptors, kita and kitb.”
* <https://pubmed.ncbi.nlm.nih.gov/29779898/>
  + “Understanding the molecular pathways controlling hematopoietic stem cell specification and expansion is a necessary milestone to perform regenerative medicine. Here, we used the zebrafish model to study the role of the ckit signaling pathway in this process. We show the importance of kitb/kitlgb signaling in the specification and expansion of hematopoietic stem cells (HSCs), in the hemogenic endothelium and caudal hematopoietic tissue (CHT), respectively. Moreover, we identified the zebrafish ortholog of Oncostatin M (osm) in the zebrafish genome. We show that the osm/osmr pathway acts upstream of kitb during specification of the hemogenic endothelium, while both pathways act synergistically to expand HSCs in the CHT. Moreover, we found that osm, in addition to its role in promoting HSC proliferation, inhibits HSC commitment to the lymphoid fate. Altogether, our data identified two cytokines, kitlgb and osm, secreted by the vascular niche, that control HSCs during early embryonic development.”

**GeneID:** 121896741

**Symbol:** ptpn9a

**Description:** protein tyrosine phosphatase non-receptor type 9a

**Other designations:** tyrosine-protein phosphatase non-receptor type 9

**log2 Fold Change:** 2.08612901097489

**Adjusted p-value:** 4.83296516099897e-78

**PubMed Search:**

One result for “ptpn9” + “ligand”. None for “ptpn9a” + “ligand”

**Findings:**

* <https://pubmed.ncbi.nlm.nih.gov/12702726/>
  + Specific interaction of protein tyrosine phosphatase-MEG2 with phosphatidylserine
  + “Protein tyrosine phosphatase (PTP)-MEG2 is an intracellular tyrosine phosphatase that contains a Sec14 homology domain. We have purified the full-length and truncated forms of the enzyme from recombinant adenovirus-infected human 293 cells. By using lipid-membrane overlay and liposome binding assays, we demonstrated that PTP-MEG2 specifically binds phosphatidylserine among over 20 lipid compounds tested. The binding is mediated by its N-terminal Sec14 domain. In intact cells, the Sec14 domain is responsible for localization of PTP-MEG2 to the perinuclear region, and uploading of PS into the cell membrane causes translocation of PTP-MEG2 to the plasma membrane. Phosphatidylserine is a relatively abundant cell membrane phospholipid non-symmetrically distributed in the outer layer and inner layer of cell membranes. It has recently been defined as an important ligand for clearance of apoptotic cells. By specifically binding phosphatidylserine, PTP-MEG2 may play an important role in regulating signaling processes associated with phagocytosis of apoptotic cells.”

**GeneID:** 121904884

**Symbol:** LOC121904884

**Description:** tumor necrosis factor receptor superfamily member 11B-like

**Other designations:** tumor necrosis factor receptor superfamily member 11B-like

**log2 Fold Change:** 3.44599482371074

**Adjusted p-value:** 1.62780132144936e-77

**PubMed Search:**

Unable to any relevant papers

**Findings:**

N/A

**GeneID:** 121904665

**Symbol:** trpv4

**Description:** transient receptor potential cation channel, subfamily V, member 4

**Other designations:** transient receptor potential cation channel subfamily V member 4

**log2 Fold Change:** 4.16117104737394

**Adjusted p-value:** 2.56140090299815e-74

**PubMed Search:**

<https://pubmed.ncbi.nlm.nih.gov/?term=%22trpv4%22+%2B+%22ligand%22&sort=date>

**Findings:**

* <https://pubmed.ncbi.nlm.nih.gov/37011730/>
  + Non-inositol 1,4,5-trisphosphate (IP3) receptor IP3-binding proteins
  + “Conventionally, myo-D-inositol 1, 4,5-trisphosphate (IP3) is thought to exert its second messenger effects through the gating of IP3R Ca2+ release channels, located in Ca2+-storage organelles like the endoplasmic reticulum. However, there is considerable indirect evidence to support the concept that IP3 might interact with other, non-IP3R proteins within cells.”
  + “The remaining 26 structures represent a diverse range of proteins, including inositol-lipid metabolizing enzymes, signal transducers, PH domain containing proteins, cytoskeletal anchor proteins, the TRPV4 ion channel, a retroviral Gag protein and fibroblast growth factor 2. Such proteins may impact on IP3 signalling and its effects on cell-biology. This represents an area open for exploration in the field of IP3 signalling.”
* <https://pubmed.ncbi.nlm.nih.gov/36993766/>
  + “RPV4, expressed in the plasma membrane of a wide range of cell types, is a polymodal ion channel whose gating is controlled by multiple endogenous and exogenous stimuli including synthetic ligands, cell swelling, shear stress, and moderate heat[17](https://www.biorxiv.org/content/10.1101/2023.03.15.532784v2.full#ref-17)–[19](https://www.biorxiv.org/content/10.1101/2023.03.15.532784v2.full#ref-19).”
* <https://pubmed.ncbi.nlm.nih.gov/36563892/>
  + N-arachidonoyltaurine (20:4 NAT) acts as an excellent ligand for the subset of transient receptor potential (TRP) channels, especially vanilloid type channels TRPV1 and TRPV4

**GeneID:** 121884723

**Symbol:** kdelr2a

**Description:** KDEL endoplasmic reticulum protein retention receptor 2a

**Other designations:** ER lumen protein-retaining receptor 2

**log2 Fold Change:** 2.02382824086684

**Adjusted p-value:** 1.09317504637082e-73

**PubMed Search:**

**Findings:**

**GeneID:** 121903603

**Symbol:** fgfr1a

**Description:** fibroblast growth factor receptor 1a

**Other designations:** fibroblast growth factor receptor 1-A

**log2 Fold Change:** 3.17586069778009

**Adjusted p-value:** 5.92473110930753e-72

**PubMed Search:**

**Findings:**

**GeneID:** 121899214

**Symbol:** LOC121899214

**Description:** tyrosine-protein kinase receptor UFO

**Other designations:** tyrosine-protein kinase receptor UFO

**log2 Fold Change:** 2.51462682836006

**Adjusted p-value:** 8.9963029518674e-69

**PubMed Search:**

**Findings:**

**GeneID:** 121908711

**Symbol:** tnk2b

**Description:** tyrosine kinase, non-receptor, 2b

**Other designations:** tyrosine kinase, non-receptor, 2b

**log2 Fold Change:** 2.07259792201258

**Adjusted p-value:** 5.11211528940113e-63

**PubMed Search:**

**Findings:**

**GeneID:** 121892115

**Symbol:** slitrk6

**Description:** SLIT and NTRK-like family, member 6

**Other designations:** SLIT and NTRK-like protein 6

**log2 Fold Change:** 6.6918529823923

**Adjusted p-value:** 1.22214422318299e-62

**PubMed Search:**

**Findings:**

**GeneID:** 121906797

**Symbol:** cmklr2

**Description:** chemerin chemokine-like receptor 2

**Other designations:** G-protein coupled receptor 1

**log2 Fold Change:** 4.4265214595399

**Adjusted p-value:** 3.73271075838346e-62

**PubMed Search:**

**Findings:**

**GeneID:** 121896675

**Symbol:** cd44b

**Description:** CD44 molecule (Indian blood group) b

**Other designations:** CD44 antigen

**log2 Fold Change:** 2.51368547524503

**Adjusted p-value:** 1.34289683137307e-56

**PubMed Search:**

**Findings:**

**GeneID:** 121906561

**Symbol:** caska

**Description:** calcium/calmodulin-dependent serine protein kinase a

**Other designations:** peripheral plasma membrane protein CASK

**log2 Fold Change:** 2.35395803053907

**Adjusted p-value:** 1.11161245117203e-54

**PubMed Search:**

**Findings:**

**GeneID:** 121904572

**Symbol:** hdr

**Description:** hematopoietic death receptor

**Other designations:** hematopoietic death receptor

**log2 Fold Change:** 2.97875861946302

**Adjusted p-value:** 1.37617293770341e-54

**PubMed Search:**

**Findings:**

**GeneID:** 121889601

**Symbol:** LOC121889601

**Description:** F-box/WD repeat-containing protein 7-like

**Other designations:** F-box/WD repeat-containing protein 7-like

**log2 Fold Change:** 2.31786629858542

**Adjusted p-value:** 1.64251338954465e-52

**PubMed Search:**

**Findings:**

**GeneID:** 121887818

**Symbol:** tfr1b

**Description:** transferrin receptor 1b

**Other designations:** transferrin receptor 1b

**log2 Fold Change:** 2.36897685729127

**Adjusted p-value:** 1.04296272068992e-50

**PubMed Search:**

**Findings:**

**GeneID:** 121910392

**Symbol:** fgfr4

**Description:** fibroblast growth factor receptor 4

**Other designations:** fibroblast growth factor receptor 4

**log2 Fold Change:** 2.62779627712691

**Adjusted p-value:** 6.42846211096338e-49

**PubMed Search:**

**Findings:**

**GeneID:** 121882707

**Symbol:** lbr

**Description:** lamin B receptor

**Other designations:** delta(14)-sterol reductase LBR

**log2 Fold Change:** 2.22811979919759

**Adjusted p-value:** 3.07244362865954e-48

**PubMed Search:**

**Findings:**

**GeneID:** 121893833

**Symbol:** LOC121893833

**Description:** macrophage-stimulating protein receptor-like

**Other designations:** macrophage-stimulating protein receptor-like

**log2 Fold Change:** 4.13311424880604

**Adjusted p-value:** 1.87353888739945e-47

**PubMed Search:**

**Findings:**

**GeneID:** 121904549

**Symbol:** unc5db

**Description:** unc-5 netrin receptor Db

**Other designations:** netrin receptor UNC5D

**log2 Fold Change:** 3.37539083812489

**Adjusted p-value:** 3.1437308517736e-43

**PubMed Search:**

**Findings:**

**GeneID:** 121897079

**Symbol:** LOC121897079

**Description:** leucine-rich repeat-containing G-protein coupled receptor 5-like

**Other designations:** leucine-rich repeat-containing G-protein coupled receptor 5-like

**log2 Fold Change:** 7.54328514139445

**Adjusted p-value:** 3.52765795624466e-42

**PubMed Search:**

**Findings:**

**GeneID:** 121906580

**Symbol:** marco

**Description:** macrophage receptor with collagenous structure

**Other designations:** macrophage receptor MARCO

**log2 Fold Change:** 2.28877108530214

**Adjusted p-value:** 1.57126026648606e-40

**PubMed Search:**

**Findings:**

**GeneID:** 121912879

**Symbol:** LOC121912879

**Description:** tetratricopeptide repeat protein 31-like

**Other designations:** hsp70-Hsp90 organizing protein 3-like|tetratricopeptide repeat protein 31-like

**log2 Fold Change:** 2.24073762321642

**Adjusted p-value:** 1.5834809868372e-40

**PubMed Search:**

**Findings:**

**GeneID:** 121897435

**Symbol:** ptprq

**Description:** protein tyrosine phosphatase receptor type Q

**Other designations:** phosphatidylinositol phosphatase PTPRQ

**log2 Fold Change:** 4.79726447664758

**Adjusted p-value:** 2.09842187735785e-39

**PubMed Search:**

**Findings:**

**GeneID:** 121901771

**Symbol:** slit3

**Description:** slit homolog 3 (Drosophila)

**Other designations:** slit homolog 3 protein

**log2 Fold Change:** 3.19785024126953

**Adjusted p-value:** 5.37135572123583e-39

**PubMed Search:**

**Findings:**

**GeneID:** 121897263

**Symbol:** LOC121897263

**Description:** receptor-type tyrosine-protein phosphatase beta-like

**Other designations:** receptor-type tyrosine-protein phosphatase beta-like

**log2 Fold Change:** 4.78304180019011

**Adjusted p-value:** 3.12796428722998e-37

**PubMed Search:**

**Findings:**

**GeneID:** 121890376

**Symbol:** LOC121890376

**Description:** inositol 1,4,5-trisphosphate receptor type 1

**Other designations:** inositol 1,4,5-trisphosphate receptor type 1

**log2 Fold Change:** 2.50855609816948

**Adjusted p-value:** 2.71068512229743e-36

**PubMed Search:**

**Findings:**

**GeneID:** 121911659

**Symbol:** fgfr2

**Description:** fibroblast growth factor receptor 2

**Other designations:** fibroblast growth factor receptor 2

**log2 Fold Change:** 3.98714249515147

**Adjusted p-value:** 3.59516802292247e-36

**PubMed Search:**

**Findings:**

**GeneID:** 121901064

**Symbol:** tie1

**Description:** tyrosine kinase with immunoglobulin-like and EGF-like domains 1

**Other designations:** tyrosine-protein kinase receptor Tie-1

**log2 Fold Change:** 3.10325602866699

**Adjusted p-value:** 2.49810465146903e-34

**PubMed Search:**

**Findings:**

**GeneID:** 121891942

**Symbol:** gpr180

**Description:** G protein-coupled receptor 180

**Other designations:** integral membrane protein GPR180

**log2 Fold Change:** 2.24914589350782

**Adjusted p-value:** 2.59649005170296e-34

**PubMed Search:**

**Findings:**