

Cytokines

Human Recombinant ANGPTL2

Angiopoietin-like Protein 2, His tag



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Catalog #100-1321

100 µg

Product Description

Angiopoietin-like protein 2 (ANGPTL2), also known as ARP2, is expressed at high levels in the heart, small intestine, and stomach but is poorly expressed in the brain and kidney in adult human tissues. ANGPTL2 is a glycosylated secretory protein that contains a coiled domain and a fibrinogen-like domain (Kim et al.). It contains a His-residue tag at the amino end of the polypeptide chain. ANGPTL2 regulates tissue remodeling by signaling through integrin $\alpha 5\beta 1$ and activating p38 mitogen-activated protein kinase (MAPK) (Odagiri et al.; Tabata et al.). Studies also show that the coiled-coil domain of ANGPTL2 functions as a growth factor, enhancing the survival of hematopoietic stem cells (HSCs) ex vivo (Broxmeyer et al.). ANGPTL2 plays a role in obesity and metabolic diseases, promoting local inflammation in adipose tissue and systemic insulin resistance in mice models (Tabata et al.). By activating an inflammatory cascade in endothelial cells and increasing macrophage inflammation, ANGPTL2 accelerates vascular inflammation which may lead to endothelial dysfunction and atherosclerosis progression (Horio et al.).

Product Information

Alternative Names: ARP2, HARP

Accession Number: NP_036230.1 (Asp245-His493) was expressed with a polyhistidine tag and spacer sequence (ALEVLFQGP) at the N-terminus.

Amino Acid Sequence: HHHHHHHHHH ALEVLFQGPD QNLKVLPPPL PTMPTLTSLP SSTDKPSGPW RDCLQALDGD HDTSSIYLVK PENTNRLMQV WCDQRHDPGG WTVIQRRLDG SVNFFRNWET YKQGFQGNIDG EYWLGLENIY WLTNQGNLYK LVTMEDWSGR KVFAEYASFR LEPSEYYKL RLGRYHGNGAG DSFTWHNGKQ FTTLDRDHDV YTGNCAYHQK GGWWYNACAH SNLNGVWYRG GHYRSRYQDG VYWAEFRGGS YSLKKVMMI RPNPNTFH

Predicted Molecular Mass: 31.4 kDa

Species: Human

Formulation: Lyophilized from sterile PBS, pH 7.4. Trehalose (5 - 8%), mannitol, and 0.01% TWEEN® 80 are normally added as protectants before lyophilization.

Source: HEK293 cells

Specifications

Activity: Not available

Purity: $\geq 92\%$

Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

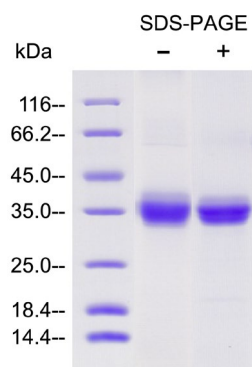
Preparation and Storage

Storage: Store at -20 to -80°C.

Stability: Stable as supplied for 12 months from date of receipt.

Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.25 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



Human Recombinant ANGPTL2 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant ANGPTL2 has a predicted molecular mass of 31.4 kDa but an apparent molecular mass of 35 kDa due to glycosylation.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines, or contact us at techsupport@stemcell.com.

References

- Broxmeyer HE et al. (2012) Angiopoietin-like-2 and -3 act through their coiled-coil domains to enhance survival and replating capacity of human cord blood hematopoietic progenitors. *Blood Cells, Mol Dis* 48(1): 25–9.
- Horio E et al. (2014) Role of endothelial cell-derived ANGPTL2 in vascular inflammation leading to endothelial dysfunction and atherosclerosis progression. *Arterioscler Thromb Vasc Biol* 34(4): 790–800.
- Kim I et al. (1999) Molecular cloning, expression, and characterization of angiopoietin-related protein. *J Biol Chem* 274(37): 26523–8.
- Odagiri H et al. (2014) The Secreted protein ANGPTL2 promotes metastasis of osteosarcoma cells through integrin $\alpha 5 \beta 1$, p38 MAPK, and matrix metalloproteinases. *Sci Signal* 7(309).
- Tabata M et al. (2009) Angiopoietin-like protein 2 promotes chronic adipose tissue inflammation and obesity-related systemic insulin resistance. *Cell Metab* 10(3): 178–88.

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