Miltenyi Biotec

Human ANGPTL5
research grade

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1. Description

Products Human ANGPTL5, research grade.

Recombinant human angiopoietin-like 5.

Content in µg	Order no.
5	130-096-125
25	130-096-126

Primary structure Single, glycosylated polypeptide chain (376 amino acid residues).

Molecular mass 43.0 kDa (calculated).

55.0 kDa (SDS-PAGE under reducing conditions).

Source Produced in HEK293 cells.

Product format Lyophilized from a filtered (0.2 µm) buffer solution.

Stabilizer Mannitol and trehalose.

Purity >95% as determined by SDS-PAGE analysis.

Endotoxin level Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.

Storage Lyophilized Human ANGPTL5, research grade should be stored at –20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at –20 °C or below. Avoid repeated freeze-thaw cycles.

Reconstitution It is recommended to reconstitute lyophilized Human ANGPTL5, research grade with deionized sterile-filtered water to a final concentration of 0.05–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.

1.1 Background information

Angiopoietin-like 5 (ANGPTL5), also called angiopoietin-like protein 5 or angiopoietin-related protein 5, is a secreted factor with high homology to angiopoietins which are important regulators of angiogenesis. Angiopoietins bind to the angiopoietin-specific receptor TIE-2, whereas angiopoietin-like proteins do not bind to this receptor. The receptor for ANGPTL5 is not yet known. Due to a coiled-coil domain, which can interact with the extracellular matrix, they exist primarily as homooligomers. Angiopoietin-like proteins are potent regulators of angiogenesis either proangiogenic or antiangiogenic factors, suggesting that their receptors may be expressed on endothelial cells. They also show pleiotropic effects on cells of other lineages, such as skin cells and chondrocytes. Angiopoietin-like proteins play a role in lipid and triglyceride metabolism and vertebrate development. It has been shown that ANGPTL5 stimulates the *ex vivo* expansion of human cord blood hematopoietic stem cells.

1.2 Applications

Human ANGPTL5 may be used for a variety of applications, including:

- *Ex vivo* expansion of human hematopoietic stem cells.
- Studies of lipoprotein metabolism or angiogenesis.

Optimal concentration for a specific application should be determined by a dose-response experiment.

2. References

1. Zhang, C.C. *et al.* (2008) Angiopoietin-like 5 and IGFBP2 stimulate *ex vivo* expansion of human cord blood hematopoietic stem cells as assayed by NOD/SCID transplantation. Blood 111: 3415–3423.

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