3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Angiopoietin-4
Human, Recombinant
Expressed in mouse NSO cells

Product Number **A 1479**

Product Description

Recombinant Human Angiopoietin-4 (ANG-4) is derived from a DNA sequence encoding the extracellular domain of human angiopoietin-4 (Met1-Ile503)[1] fused to the His tag via a linker peptide. The protein is expressed in a mouse myeloma cell line, NSO. Recombinant human ANG-4, generated by the proteolytic removal of the signal peptide region, contains 507 amino acids. Based on N-terminal sequencing, the amino-terminus is blocked, consistent with having Gln 23 or Gln 24 as the first residue. Mature recombinant human ANG-4 has a calculated molecular mass of 57 kDa. As a result of glycosylation, the recombinant protein migrates with an apparent mass of 60-100 kDa in SDS-PAGE under reducing conditions.

Human Angiopoietin-4 (ANG-4),[2] a secreted glycoprotein, is a member of the angiopoietin family. It has the characteristic structural motifs of angiopoietins including the coiled-coiled domain near the amino-terminus and a fibrinogen-like domain at the carboxy-terminus. Human angiopoietin-4 cDNA encodes a 503 amino acid precursor protein with a 23 amino acid signal peptide. It shares 45%, 47%, and 54% amino acid sequence identity with human ANG-1, human ANG-2, and mouse ANG-3, respectively. Mouse ANG-3 is believed to be an ortholog of human ANG-4 based on chromosomal localization studies.[1] Human ANG-4 is highly expressed in lung and in cultured human umbilical vein endothelial cells (HUVACs). Human ANG-4 is an agonist that can bind and activate Tie-2, a receptor tyrosine kinase with immunoglobulin and epidermal growth factor homology domains expressed primarily on endothelial cells and early hematopoietic cells.[1, 3]

Reagent

Recombinant Human Angiopoietin-4 is supplied as approximately 25 µg of protein lyophilized from a 0.2 µm filtered solution in phosphate buffered saline, pH 6.8, containing 1.25 mg bovine serum albumin.

Storage/Stability

Store lyophilized samples at –20 °C. Upon reconstitution, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Preparation Instructions

Reconstitute the contents of the vial using 0.2 µm filtered phosphate buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of at least 10 µg/ml.

Product Profile

Recombinant Human Angiopoietin-4 is measured by its ability to compete with biotinylated recombinant human ANG-2 for binding to immobilized Tie-2/Fc in ELISA.

Endotoxin level is < 1.0 EU (endotoxin units)/µg protein as determined by the LAL (Limulus amebocyte lysate) method.

References

1. Nishimura, M., et al., FEBS Lett., **448**, 254-256 (1999).
2. Valenzuela, D.M., et al., Proc. Natl. Acad. Sci. USA, **96**, 1904-1909 (1999).
3. Jones, N., et al., Nat. Rev. Mol. Cell Biol., **2**, 257-267 (2001).

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