

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived			
	Human Ang-4 (Gln23 - Ile503) or (Gln24 - Ile503) Accession # Q9Y264	IEGR	GGSGGGSGGGS	10-His tag
	N-terminus			C-terminus

N-terminal Sequence No results obtained: Gln23 or Gln24 predicted

Analysis

Structure / Form Oligomer

Predicted Molecular Mass 57 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	60-100 kDa, reducing conditions
Activity	Measured by its ability to compete with biotinylated rhAng-2 for binding to immobilized Tie-2/Fc Chimera in a functional ELISA. Compared to rmAngiopoietin-3, rhAngiopoietin-4 is less effective in this competitive assay.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>85%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in Tris-Citrate and NaCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Human Angiopoietin-4 (Ang-4) (1), alternatively named Ang-3 (2), is a secreted glycoprotein belonging to 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 C-terminus. Human Ang-4 cDNA encodes a 503 amino acid (aa) precursor protein with a 23 aa signal peptide. It shares 45%, 47% and 54% aa sequence identity with human Ang-1, human Ang-2 and mouse Ang-3, respectively. Although the sequence homology is much higher between the human and mouse counterparts for Ang-1 (97%) and Ang-2 (85%), mouse Ang-3 is believed to be an ortholog of human Ang-4 based on chromosomal localization studies (2). Human Ang-4 is highly expressed in lung and in cultured human umbilical vein endothelial cells (HUVECs). In contrast, mouse Ang-3 is expressed multiple mouse tissues. 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 (2, 3). Mouse Ang-3 has been reported to be a Tie-2 antagonist. It is likely that mouse Ang-3, like Ang-2, may exert agonist or antagonist activities depending on the cell context (1, 3, 4).

References:

1. Valenzuela, D.M. *et al.* (1999) Proc. Natl. Acad. Sci. USA **96**:1904.
2. Nishimura, M. *et al.* FEBS Lett. **448**:254.
3. Jones, N. *et al.* (2001) Nat. Rev. Mol. Cell Biol. **2**:257.
4. Teichert-Kuliszewska, K. *et al.* (2001) Cardiovasc. Res. **49**:659.