Recombinant Mouse Angiopoietin-like Protein 7/ANGPTL7

Catalog Number: 4960-AN/CF

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived Met1-Pro337, with a C-terminal 10-His tag Accession # NP_001034643
N-terminal Sequence Analysis	No results obtained: Gln22 predicted
Predicted Molecular Mass	37.9 kDa

SPECIFICATIONS

SDS-PAGE	45-55 kDa, reducing conditions
Activity	Measured by its ability to promote the expansion of E16 rat liver mononuclear cells *in vitro*, in the presence of Recombinant Mouse SCF/c-kit Ligand (Catalog # 455-MC), Recombinant Mouse Thrombopoietin/Tpo (Catalog # 488-TO), and Recombinant Mouse Flt-3 Ligand (Catalog # 427-FL). The ED_{50} for this effect is 60-240 ng/mL in the presence of a cross-linking Mouse Anti-polyHistidine Monoclonal Antibody (Catalog # MAB050).
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in $NaPO_4$ and NaCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 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

Angiopoietin-like 7 (ANGPTL7), also known as Corneal-Derived Transcript 6 (CDT6), is a secreted, 45-50 kDa glycoprotein member of the angiopoietin-like family of molecules. Members of this protein family contain an N-terminal coiled coil domain and a C-terminal fibrinogen-like domain (1-3). Mature mouse ANGPTL7 is 316 amino acids (aa) in length. It shares 88% and 98% aa sequence identity with human and rat ANGPTL7, respectively. The ANGPTL7 monomer forms homotetramers *via* its coiled coil domain (4, 5). ANGPTL7 is expressed in the corneal stroma, trabecular meshwork, and sclera (3, 5). Its production is up-regulated in trabecular meshwork cells by glucocorticoids and TGF-β and in cartilage by TNF-α (5-7). ANGPTL7 expression is up-regulated under conditions of increased ocular pressure (IOP). Since IOP is a risk factor for glaucoma, ANGPTL7 may represent a defense mechanism to reduce pressure on the retina. It appears that IOP is a consequence of increased ECM deposition, a major component of which is fibronectin. In this regard, ANGPTL7 is reported to both decrease fibronectin expression and promote MMP1 expression, actions that would tend to reduce organized ECM deposition (8). When overexpressed in tumor cells, it promotes collagen and proteoglycan deposition but inhibits tumor xenograft progression and tumor angiogenesis (4). ANGPTL7, when used in combination with SCF, Thrombopoietin, IGF-II, and FGF acidic, enhances the expansion and engraftment of human and mouse hematopoietic stem cells (9).

References:

1. Oike, Y. *et al.* (2009) Circ. J. **73**:2192.
2. Miida, T. and S. Hirayama (2010) Curr. Opin. Lipidol. **21**:70.
3. Peek, R. *et al.* (1998) Invest. Opthalmol. Vis. Sci. **39**:1782.
4. Peek, R. *et al.* (2002) J. Biol. Chem. **277**:686.
5. Kuchtey, J. *et al.* (2008) Invest. Opthalmol. Vis. Sci. **49**:3438.
6. Nehme, A. *et al.* (2009) BMC Med. Genomics **2**:58.
7. Stevens, A.L. *et al.* (2008) Arthritis Rheum. **58**:489.
8. Comes, N. *et al.* (2011) Genes Cells **16**:243.
9. Zhang, C.C. *et al.* (2006) Nat. Med. **12**:240.

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