Recombinant Human Angiopoietin-like 4/ANGPTL4 C-Terminal Fragment

Catalog Number: 3485-AN

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived human Angiopoietin-like Protein 4/ANGPTL4 protein Leu165-Ser406, with a C-terminal 6-His tag Accession # Q9BY76
N-terminal Sequence Analysis	Leu165
Structure / Form	Oligomer
Predicted Molecular Mass	28 kDa

SPECIFICATIONS

SDS-PAGE	36 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Angiopoietin-like 4/ANGPTL4 C-Terminal Fragment is immobilized at 1 µg/mL, 100 µL/well, the concentration of Recombinant Human LILRB2/CD85d/ILT4 Fc Chimera (Catalog # 2078-T4) binds with an ED_{50} of 70.0-350 ng/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>90%, 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 250 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	**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

ANGPT-L4, also known as FIAF, FARP, and PGAR, is a 55 kDa glycoprotein secreted by the liver and fat tissue that is structurally related to the angiopoietins. It contains an N-terminal coiled coil domain and a C-terminal fibrinogen-like domain which can be proteolytically separated in vivo (1, 2). Mature human ANGPT-L4 shares 26%-30% amino acid (aa) sequence identity with ANGPT-L1, 2, 3, 5, 6, and 7. It shares approximately 75% aa sequence identity with mouse and rat ANGPT-L4. The coiled coil domain, which is not glycosylated, mediates the formation of variable sized disulfide-linked oligomers (3, 4). This domain directly inhibits lipoprotein lipase, resulting in increased circulating triglyceride levels (5-9). In human, the N-terminal fragment and full length ANGPT-L4 physically associate with HDL (9). In mouse, however, full length ANGPT-L4 associates with HDL, while the N-terminal fragment associates with LDL (9). Circulating ANGPT-L4 is decreased in type II diabetics with a subsequent loss of its normal plasma glucose lowering activity (10). Its expression in adipose tissue is induced by fasting and suppressed by feeding (3, 11). Its expression in both liver and fat is up-regulated by PPARα, β, γ, and δ agonists and down-regulated by insulin (3, 12, 13). ANGPT-L4 is induced in vascular endothelial cells by hypoxia and in hypoxic areas surrounding tumors (14-16). The full length molecule but not the C-terminal fragment is bound by heparan sulfate proteoglycans and functions as an angiogenesis inhibitor (14, 15).

References:

1. Li, C. (2006) Curr. Opin. Lipidol. **17**:152.
2. Kersten, S. (2005) Biochem. Soc. Transact. **33**:1059.
3. Ge, H. *et al.* (2005) J. Lipid Res. **46**:1484.
4. Ge, H. *et al.* (2004) J. Biol. Chem. **279**:2038.
5. Sukonina, V. *et al.* (2006) Proc. Natl. Acad. Sci. **103**:17450.
6. Koster, A. *et al.* (2005) Endocrinology **146**:4943.
7. Yoshida, K. *et al.* (2002) J. Lipid Res. **43**:1770.
8. Ge, H. *et al.* (2004) J. Lipid Res. **45**:2071.
9. Mandard, S. *et al.* (2006) J. Biol. Chem. **281**:934.
10. Xu, A. *et al.* (2005) Proc. Natl. Acad. Sci. **102**:6086.
11. Kersten, S. *et al.* (2000) J. Biol. Chem. **275**:28488.
12. Mandard, S. *et al.* (2004) J. Biol. Chem. **279**:34411.
13. Yamada, T. *et al.* (2006) Biochem. Biophys. Res. Commun. **347**:1138.
14. Cazes, A. *et al.* (2006) Circ. Res. **99**:1207.
15. Le Jan, S. *et al.* (2003) Am. J. Pathol. **162**:1521.
16. Ito, Y. *et al.* (2003) Cancer Res. **63**:6651.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449