Mouse Angiopoietin-like Protein 3/ANGPTL3 Antibody

Monoclonal Rat IgG_{2A} Clone # 128610

Catalog Number: MAB136

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Angiopoietin-like 3 in direct ELISAs and Western blots. In direct ELISAs, this antibody does not cross-react with recombinant human (rh) Angoipoietin-1, rhAngoipoietin-2, rhAngoipoietin-4, rmAngoipoietin-3, and cornea-derived transcript 6 (CDT6), an Angiopoietin-like factor.
Source	Monoclonal Rat IgG_{2A} Clone # 128610
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant mouse Angiopoietin-like 3 Ser17-Thr455 Accession # Q9R182
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Mouse Angiopoietin-like 3 (Catalog # 136-AN)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

ANGPTL3 is a secreted glycoprotein that is structurally related to the angiopoietins (1-3). Mature mouse ANGPTL3 contains an N-terminal coiled-coil domain and a C-terminal fibrinogen-like domain (4). ANGPTL3 is expressed in the liver from early in development through adulthood (4, 5). Full length ANGPTL3 circulates in the plasma as do the proteolytically separated N- and C-terminal fragments containing the coiled-coil domain and fibrinogen-like domains, respectively (6, 7). ANGPTL3 is found as 70 kDa, 50 kDa, and 32 kDa species and can form weakly associated noncovalent multimers *in vitro* (5, 6). ANGPTL3 directly inhibits lipoprotein lipase (LPL), an enzyme responsible for hydrolyzing circulating triglycerides (8). This activity requires a putative heparin-binding motif that is N-terminal to the coiled-coil domain (6). Proteolytic removal of the fibrinogen-like domain from the N-terminal fragment serves to activate ANGPTL3 and increase its ability to inhibit LPL *in vitro* and function *in vivo* (6). ANGPTL3 promotes an increase in circulating triglyceride levels without altering VLDL or HDL secretion or uptake (6-8). ANGPTL3 knockout mice are hypolipidemic and have elevated LPL activity (9). ANGPTL3 expression *in vivo* is upregulated by LXR agonists and downregulated by insulin, leptin, and TRβ agonists (10-12). Dysregulated ANGPTL3 expression and elevated plasma triglyceride levels are characteristic of some strains of obese and diabetic mice, (7, 8, 11). ANGPTL3 does not bind Tie-1 or Tie-2 but its fibrinogen-like domain interacts with integrin αVβ3 to induce endothelial cell adhesion, migration, and neovascularization (13). ANGPTL3, secreted by fetal liver cells, also promotes the expansion of hematopoietic stem cells (14). Mature mouse ANGPTL3 shares 22%-30% amino acid (aa) sequence identity with ANGPTL1, 2, 4, 6, and 7. It shares 77% aa sequence identity with human ANGPTL3.

References:

1. Li, C. (2006) Curr. Opin. Lipidol. **17**:152.
2. Oike, Y. *et al.* (2004) Int. J. Hematol. **80**:21.
3. Kersten, S. (2005) Biochem. Soc. Transact. **33**:1059.
4. Conklin, D. *et al.* (1999) Genomics **62**:477.
5. Ge, H. *et al.* (2005) J. Lipid Res. **46**:1484.
6. Ono, M. *et al.* (2003) J. Biol. Chem. **278**:41804.
7. Koishi, R. *et al.* (2002) Nat. Genet. **30**:151.
8. Shimizugawa, T. *et al.* (2002) J. Biol. Chem. **277**:33742.
9. Koster, A. *et al.* (2005) Endocrinology **146**:4943.
10. Inaba, T. *et al.* (2003) J. Biol. Chem. **278**:21344.
11. Shimamura, M. *et al.* (2004) Biochem. Biophys. Res. Commun. **322**:1080.
12. Fugier, C. *et al.* (2006) J. Biol. Chem. **281**:11553.
13. Camenisch, G. *et al.* (2002) J. Biol. Chem. **277**:17281.
14. Zhang, C.C. *et al.* (2006) Nat. Med. **12**:240.

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