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ANGPTL3 Antibody

Catalog # ASC11817

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9Y5C1
Other Accession	NP_055310, 7656888
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	53637
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ANGPTL3 antibody can be used for detection of ANGPTL3 by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunohistochemistry at 5 g/mL. For Immunoflorescence start at 20 g/mL.

Additional Information

Gene ID	27329
Other Names	Angiopoietin-related protein 3, Angiopoietin-5, ANG-5, Angiopoietin-like protein 3, ANGPTL3, ANGPT5
Target/Specificity	ANGPTL3; ANGPTL3 antibody is human, mouse and rat reactive. ANGPTL3 antibody is predicted not to cross-react with other ANGPTL family proteins.
Reconstitution & Storage	ANGPTL3 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	ANGPTL3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ANGPTL3
Synonyms	ANGPT5
Function	Acts in part as a hepatokine that is involved in regulation of lipid and glucose metabolism (PubMed:11788823, PubMed:12909640, PubMed:23661675, PubMed:25495645). Proposed to play a role in the trafficking of energy substrates to either storage or oxidative tissues in response to food intake (By similarity). Has a stimulatory effect on plasma triglycerides (TG), which is achieved by suppressing plasma TG clearance via inhibition of LPL activity. The inhibition of LPL activity appears to be an indirect mechanism involving recruitment of proprotein convertases PCSK6 and FURIN to LPL leading to

	cleavage and dissociation of LPL from the cell surface; the function does not require ANGPTL3 proteolytic cleavage but seems to be mediated by the N-terminal domain, and is not inhibited by GPIHBP1 (PubMed:12097324, PubMed:19318355, PubMed:20581395). Can inhibit endothelial lipase, causing increased plasma levels of high density lipoprotein (HDL) cholesterol and phospholipids (PubMed:17110602, PubMed:19028676). Can bind to adipocytes to activate lipolysis, releasing free fatty acids and glycerol (PubMed:12565906). Suppresses LPL specifically in oxidative tissues which is required to route very low density lipoprotein (VLDL)-TG to white adipose tissue (WAT) for storage in response to food; the function may involve cooperation with circulating, liver-derived ANGPTL8 and ANGPTL4 expression in WAT (By similarity). Contributes to lower plasma levels of low density lipoprotein (LDL)-cholesterol by a mechanism that is independent of the canonical pathway implicating APOE and LDLR. May stimulate hypothalamic LPL activity (By similarity).
Cellular Location	Secreted {ECO:0000250, ECO:0000305|PubMed:11877390}. Cell projection, lamellipodium {ECO:0000250|UniProtKB:Q9R182}. Note=Colocalized with HSPG2 and activated ITGB3 on podocytes. {ECO:0000250|UniProtKB:Q9R182}
Tissue Location	Expressed principally in liver. Weakly expressed in kidney. Binds to adipocytes. Increased expression and colocalization with activated ITGB3 in glomeruli of patients with nephrotic syndrome showing effaced podocyte foot processes (at protein level)

Background

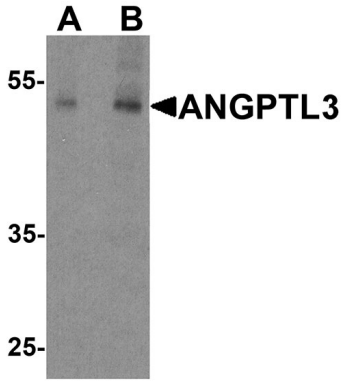
The angiopoietin-related protein 3 (ANGPTL3) is a member of a family of secreted proteins that function in angiogenesis (1). ANGPTL3 is processed into an N-terminal coiled-coil domain-containing chain and a C-terminal fibrinogen chain. The N-terminal chain is important for lipid metablism, while the C-terminal chain may be involved in angiogenesis (2,3). Recent experiments have shown that a deficiency of ANGPTL3 is associated with increased insulin sensitivity, lipoprotein lipase activity, and decreased serum free fatty acids, suggesting that ANGPTL3 may also play a role in modulating glucose metabolism (4).

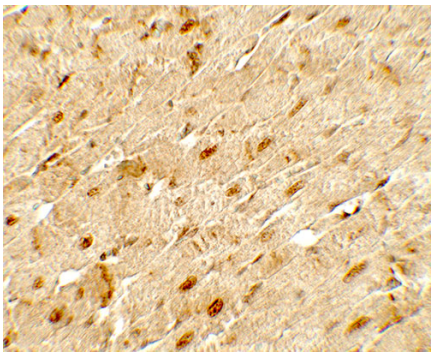
References

Conklin D, Gilbertson D, Taft DW, et al. Identification of a mammalian angiopoietin-related protein expressed specifically in liver. Genomics 1999; 62:477-82.
Koishi R, Ando Y, Ono M, et al. Angptl3 regulates lipid metabolism in mice. Nat. Genet. 2002; 30:151-7.
Camenisch G, Pisabarro MT, Sherman D, et al. ANGPTL3 stimulates endothelial cell adhesion and migration via integrin alpha vbeta 3 and induces blood vessel formation in vivo.J. Biol. Chem. 2002; 277:17281-90.
Robciuc MR, Maranghi M, Lahikainen A, et al. Angptl3 deficiency is associated with increased insulin sensitivity, lipoprotein lipase activity, and decreased serum free fatty acids. Arterioscler. Thromb. Vasc. Biol. 2013; 33:1706-13.

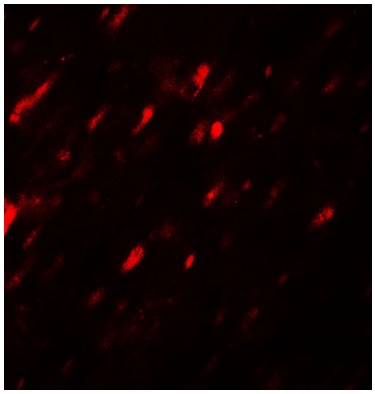
Images

Western blot analysis of ANGPTL3 in human heart tissue lysate with ANGPTL3 antibody at (A) 1 and (B) 2 µg/ml.





Immunohistochemistry of ANGPTL3 in rat heart tissue with ANGPTL3 antibody at 5 µg/mL.



Immunofluorescence of ANGPTL3 in rat heart tissue with ANGPTL3 antibody at 20 µg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.