



ANGPTLs [ANGIOPOIETIN-LIKE PROTEINS]

Introduction

Seven proteins have been identified to contain a coiled-coil domain and a fibrinogen-like domain similar to those found in angiotensins [1-8], and are therefore designated angiotensin-like proteins (ANGPTLs; angiotensin-related proteins) 1-7 (Figure). Although none of these proteins bind to the angiotensin receptors, most members show angiogenic effects. More recently, ANGPTL-family members have been found to be regulators of metabolism [9].

Metabolism

At least four ANGPTLs show pronounced effects on energy metabolism. ANGPTL2 is a key mediator of chronic adipose tissue inflammation and obesity-related systemic insulin resistance. It is primarily secreted by adipose tissue and its expression at both the mRNA and protein levels is increased by obesity and obesity related conditions, including hypoxia and endoplasmic reticulum (ER) stress. Circulating ANGPTL2 levels are closely related to adiposity, inflammation and systemic insulin resistance. In endothelial cells, ANGPTL2 activates an inflammatory cascade and induces chemotaxis of monocytes and macrophages. It plays a key role in inflammation of adipose tissue via inflammatory vascular remodelling and recruitment of macrophages into adipose tissue [10].

The importance of ANGPTL3 (angiotensin-5) for lipid metabolism was first indicated by the genetic analysis of a mutant strain of obese mice with low plasma lipid levels. Administration of recombinant ANGPTL3 to ANGPTL3-deficient as well as wild type mice increased the plasma levels of non-esterified fatty acid (NEFA), triacylglycerol (TG) and cholesterol [11]. ANGPTL3 decreases very-low-density-lipoprotein (VLDL)-TG clearance by inhibiting lipoprotein lipase (LPL) [12], but has also been shown to activate lipolysis upon direct binding to adipocytes [13]. ANGPTL3 also suppresses endothelial lipase (EL) thereby regulating high-density lipoprotein (HDL) [14].

Like ANGPTL3, ANGPTL4 (hepatic fibrinogen/angiotensin-related protein (HFARP) [3]; peroxisome proliferator-activated receptor γ angiotensin-related gene (PGAR) [15]; fasting-induced adipose factor (FIAF) [16]) has been found to inhibit lipoprotein lipase (LPL) and decrease plasma triglycerides [17-19]. The N-terminal coiled-coil domains of ANGPTL3 and ANGPTL4 are crucial for the inhibition of LPL by transforming LPL from an active dimer into catalytically inactive monomers [20, 21]. The expression of ANGPTL4 is induced by fasting [16, 22].

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ANGPTL6 (human) ELISA Kit

- Excellent Quality
- High Sensitivity
- Batch-to-Batch Reproducibility

For Details see Backcover.



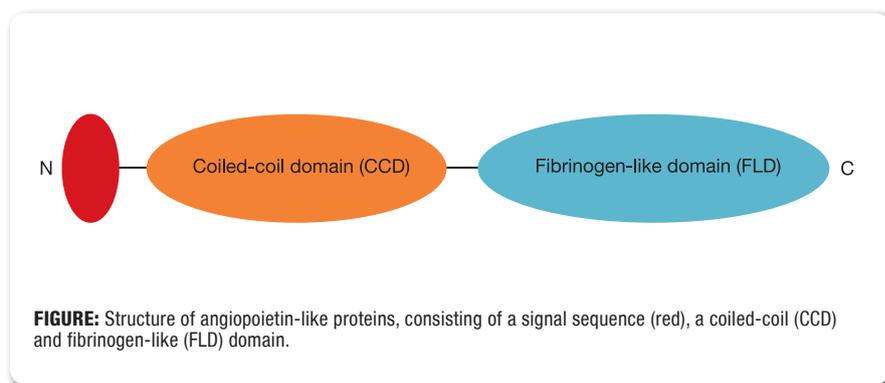
ANGPTL4 upregulation by the cytokine transforming growth factor β (TGF β) promotes extravasation of breast cancer cells into lung tissue. TGF β secreted from the micro-environment of the tumor upregulates ANGPTL4 expression in breast cancer cells entering the blood stream, enabling the tumor cells to extravasate into the lung [23, 24].

The effect of ANGPTL6 (angiopoietin-related growth factor; AGF) on metabolism has been revealed by studying ANGPTL6-deficient mice. Surviving mice developed marked obesity, lipid metabolic disorders, and insulin resistance accompanied by reduced energy expenditure. In contrast, transgenic ANGPTL6-mice are lean and more insulin-sensitive despite their normal energy intake and serum leptin levels [25]. ANGPTL6 has also been found to suppress gluconeogenesis through an Akt/FocO1-dependent pathway [26].

Angiogenesis

ANGPTL3 stimulates adhesion and migration of endothelial cells as well induces blood vessel formation [4]. ANGPTL4 showed a proangiogenic response in chicken chorioallantoic membrane assays [6], protects endothelial cells from apoptosis [3], and inhibits VEGF-induced vascular leakiness and neoangiogenesis [5]. ANGPTL4 has the potential to prevent metastasis by inhibiting vascular activity as well as tumor cell motility and invasiveness [27]. ANGPTL6 promotes angiogenesis [8, 28]. Initially, ANGPTL1 and ANGPTL2 have been reported to exhibit significant but weak endothelial cell-sprouting activities *in vitro* [1, 2]. Later, it was reported that ANGPTL1 inhibited VEGF-induced angiogenesis, and it was thus named “Angioarrestin” [29]. ANGPTL1 and ANGPTL2 have been shown to exhibit antiapoptotic activity [30].

LIT: [1] Molecular cloning and characterization of a novel angiopoietin family protein, angiopoietin-3: I. Kim, et al.; FEBS Lett. **443**, 353 (1999) • [2] Molecular cloning, expression, and characterization of angiopoietin-related protein. angiopoietin-related protein induces endothelial cell sprouting: I. Kim, et al.; J. Biol. Chem. **274**, 26523 (1999) • [3] Hepatic expression, synthesis and secretion of a novel fibrinogen/angiopoietin-related protein that prevents endothelial-cell apoptosis: I. Kim, et al.; Biochem. J. **346**, 603 (2000) • [4] ANGPTL3 stimulates endothelial cell adhesion and migration via integrin alpha vbeta 3 and induces blood vessel formation *in vivo*: G. Camenisch, et al.; J. Biol. Chem. **277**, 17281 (2002) • [5] Inhibition of angiogenesis and vascular leakiness by angiopoietin-related protein 4: Y. 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Genet. **30**, 151 (2002) • [12] ANGPTL3 decreases very low density lipoprotein triglyceride clearance by inhibition of lipoprotein lipase: T. Shimizugawa, et al.; J. Biol. Chem. **277**, 33742 (2002) • [13] Angiopoietin-like protein 3, a hepatic secretory factor, activates lipolysis in adipocytes: M. Shimamura, et al.; BBRC **301**, 604 (2003) • [14] Angiopoietin-like protein3 regulates plasma HDL cholesterol through suppression of endothelial lipase: M. Shimamura, et al.; Arterioscler. Thromb. Vasc. Biol. **27**, 366 (2007) • [15] Peroxisome proliferator-activated receptor gamma target gene encoding a novel angiopoietin-related protein associated with adipose differentiation: J. C. Yoon, et al.; Mol. Cell. Biol. **20**, 5343 (2000) • [16] Characterization of the fasting-induced adipose factor FIAF, a novel peroxisome proliferator-activated receptor target gene: S. Kersten, et al.; J. Biol. 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Sukonina, et al.; PNAS **103**, 17450 (2006) • [22] Food restriction regulates adipose-specific cytokines in pituitary gland but not in hypothalamus: G. Wiesner, et al.; J. Endocrinol. **180**, R1 (2004) • [23] TGFbeta primes breast tumor cells for metastasis: A. L. Welm; Cell **133**, 27 (2008) • [24] TGFbeta primes breast tumors for lung metastasis seeding through angiopoietin-like 4: D. Padua, et al.; Cell **133**, 66 (2008) • [25] Angiopoietin-related growth factor antagonizes obesity and insulin resistance: Y. Oike, et al.; Nat. Med. **11**, 400 (2005) • [26] Angiopoietin-related growth factor suppresses gluconeogenesis through the Akt/torkhead box class O1-dependent pathway in hepatocytes: M. Kitazawa, et al.; J. Pharmacol. Exp. Ther. **323**, 787 (2007) • [27] Angiopoietin-like 4 prevents metastasis through inhibition of vascular permeability and tumor cell motility and invasiveness: A. Galaup, et al.; PNAS **103**, 18721 (2006) • [28] Angiopoietin-related growth factor (AGF) supports adhesion, spreading, and migration of keratinocytes, fibroblasts, and endothelial cells through interaction with RGD-binding integrins: Y. Zhang, et al.; BBRC **347**, 100 (2006) • [29] Angioarrestin: an angiogenic protein with tumor-inhibiting properties: M. Dhanabal, et al.; Cancer Res. **62**, 3834 (2002) • [30] Cooperative interaction of Angiopoietin-like proteins 1 and 2 in zebrafish vascular development: Y. Kubota, et al.; PNAS **102**, 13502 (2005)



ANGPTL7 Increases Hematopoietic Stem Cell Activity

Human ANGPTL7 (cornea-derived transcript 6; CDT6 [1]) is produced as a secreted glycoprotein with a molecular mass of 45kDa. It reduces tumor growth and aberrant blood vessel formation by inducing massive fibrosis in a mouse xenograft model [2, 3]. Addition of ANGPTL7 or ANGPTL5 results in a further increase in mouse hematopoietic stem cell (HSC) activities [4], whereas ANGPTL5 also can stimulate *ex vivo* expansion of human HSCs [5]. This suggests that ANGPTLs may activate signal transduction pathways that cannot be activated by stem cell factors (SCFs), thrombopoietin (TPO), insulin-like growth factor 2 (IGF-2) or fibroblast growth factor 1 (FGF-1). Human ANGPTL7, characterized as potent target gene of Wnt/ β -catenin signaling pathway, is a pharmacogenomics target in the fields of oncology and regenerative medicine [6]. Overexpression of ANGPTL7 increases collagen expression. ANGPTL7 could exert a pathogenic role in glaucoma [7].

LT: [1] Molecular cloning of a new angiopoietin like factor from the human cornea: R. Peek, et al.; Invest. Ophthalmol. Vis. Sci. **39**, 1782 (1998) ▪ [2] The angiopoietin-like factor cornea-derived transcript 6 is a putative morphogen for human cornea: R. Peek, et al.; J. Biol. Chem. **277**, 686 (2002) ▪ [3] CDT6-expression can alter tumor sensitivity to chemotherapy: D. Bouis, et al.; Anticancer Res. **23**, 443 (2003) ▪ [4] Angiopoietin-like proteins stimulate *ex vivo* expansion of hematopoietic stem cells: C. C. Zhang, et al.; Nat. Med. **12**, 240 (2006) ▪ [5] Angiopoietin-like 5 and IGFBP2 stimulate *ex vivo* expansion of human cord blood hematopoietic stem cells as assayed by NOD/SCID transplantation: C. C. Zhang, et al.; Blood **111**, 3415 (2008) ▪ [6] Comparative integromics on Angiopoietin family members: Y. Katoch & M. Katoch; Int. J. Mol. Med. **17**, 1145 (2006) ▪ [7] Angiopoietin-like 7 secretion is induced by glaucoma stimuli and its concentration is elevated in glaucomatous aqueous humor: J. Kuchtey, et al.; Invest. Ophthalmol. Vis. Sci. **49**, 3438 (2008)

ANGPTL7 (human), (rec.)

ALX-201-368-C010 10 μ g

ALX-201-368-C050 50 μ g

Produced in HEK 293 cells. Human ANGPTL7 (aa 1-346) is fused at the C-terminus to a FLAG[®]-tag. **PURITY:** \geq 90% (SDS-PAGE). **ENDOTOXIN CONTENT:** <0.1EU/ μ g protein (LAL-test).

ANGPTL7 (fibrinogen-like domain) (human), (rec.)

ALX-201-395-C010 10 μ g

ALX-201-395-C050 50 μ g

Produced in HEK 293 cells. Fibrinogen-like domain (FLD) of human ANGPTL7 (aa 126-346) is fused at the N-terminus to a FLAG[®]-tag. **PURITY:** \geq 90% (SDS-PAGE). **ENDOTOXIN CONTENT:** <0.1EU/ μ g protein (LAL-test).

ANGPTL7 (human), pAb

ALX-210-453-C100 100 μ g

From rabbit. **IMMUNOGEN:** Recombinant human ANGPTL7. **SPECIFICITY:** Recognizes human ANGPTL7. Weakly cross-reacts with human ANGPTL3 and ANGPTL4. Does not cross-react with ANGPTL1, ANGPTL2, and ANGPTL6. **APPLICATION:** WB.

ANGPTL7 (coiled-coil domain) (human), pAb

ALX-210-499-C100 100 μ g

From rabbit. **IMMUNOGEN:** Coiled-coil domain (CCD) of recombinant human ANGPTL7. **SPECIFICITY:** Recognizes the coiled-coil domain of human ANGPTL7 and the ANGPTL7 full length protein. Weakly cross-reacts with the coiled-coil domains of human ANGPTL2, ANGPTL3, ANGPTL4, and ANGPTL5. Weakly cross-reacts with ANGPTL6 and ANGPTL3 full length protein. Does not cross-react with the fibrinogen like domain of ANGPTL7. **APPLICATION:** WB.

ANGPTL7 (human), mAb (Kairos 108-4)

ALX-804-738-C100 100 μ g

CLONE: Kairos 108-4. **ISOTYPE:** Mouse IgG1. **IMMUNOGEN:** Recombinant human full length ANGPTL7. **SPECIFICITY:** Recognizes human ANGPTL7. Detects a band of ~45kDa by Western blot. Weakly cross-reacts with human ANGPTL7-CCD. **APPLICATION:** IHC (PS), WB.

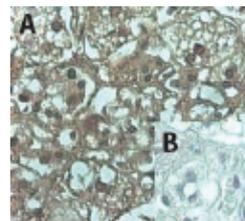


FIGURE: Immunohistochemical staining of ANGPTL7 with ANGPTL7 (human), mAb (Kairos 108-4) (Prod. No. ALX-804-738) in human tissue (1:100 dilution).

A. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human adrenal gland showing cytoplasmic staining (200x, brown color).

B. Isotype control staining (200x).

ANGPTL7 (human), mAb (Kairos 397-7)

ALX-804-740-C100 100 μ g

CLONE: Kairos 397-7. **ISOTYPE:** Mouse IgG1. **IMMUNOGEN:** Recombinant human full length ANGPTL7. **SPECIFICITY:** Recognizes human ANGPTL7. Detects a band of ~45kDa by Western blot. Weakly cross-reacts with the fibrinogen-like domain (FLD) of human ANGPTL7. **APPLICATION:** WB.

Latest Insight

MFAP4

MFAP4 (microfibril-associated glycoprotein 4) [1] is a collagen-binding protein playing a potential role in extracellular matrix (ECM) turnover during fibrogenesis. It contains a C-terminal fibrinogen-like domain and a N-terminal located integrin-binding motif. MFAP4 exhibits sequence similarity to ANGPTLs and also stimulates the *ex vivo* expansion of hematopoietic stem cells [2]. In a proteomics approach specifically MFAP4 has been identified as a potential new serum biomarker of hepatic fibrosis [3].

LT: [1] The gene for a human microfibril-associated glycoprotein is commonly deleted in Smith-Magenis syndrome patients: Z. Zhao, et al.; Hum. Mol. Genet. **4**, 589 (1995) ▪ [2] Angiopoietin-like proteins stimulate *ex vivo* expansion of hematopoietic stem cells: C. C. Zhang, et al.; Nat. Med. **12**, 240 (2006) ▪ [3] Detection of novel biomarkers of liver cirrhosis by proteomic analysis: C. Molleken, et al.; Hepatology **49**, 1257 (2009)

MFAP4 (human), (rec.)

ALX-201-381-C010 10 μ g

ALX-201-381-C050 50 μ g

Produced in HEK 293 cells. Human MFAP4 (aa 1-255) is fused at the C-terminus to a FLAG[®]-tag. **PURITY:** \geq 90% (SDS-PAGE). **ENDOTOXIN CONTENT:** <0.1EU/ μ g protein (LAL-test).

MFAP4 (human), pAb

ALX-210-464-C100 100 μ g

From rabbit. **IMMUNOGEN:** Recombinant human MFAP4. **SPECIFICITY:** Recognizes human MFAP4. **APPLICATION:** WB.

incorporating

Proteins

Produced in HEK 293 cells ■ PURITY: ≥90% (SDS-PAGE) ■ ENDOTOXIN CONTENT: <0.1EU/μg protein (LAL-test)

Product		Prod. No.	Size
ANGPTL1 (fibrinogen-like domain) (human), (rec.)	Fibrinogen-like domain (FLD) of human ANGPTL1 (aa 197-491) is fused at the N-terminus to a FLAG [®] -tag.	ALX-201-387-C010 ALX-201-387-C050	10 μg 50 μg
ANGPTL2 (coiled-coil domain) (human), (rec.)	Coiled-coil domain (CCD) of human ANGPTL2 (aa 23-248) is fused at the C-terminus to a FLAG [®] -tag.	ALX-201-396-C010 ALX-201-396-C050	10 μg 50 μg
ANGPTL2 (fibrinogen-like domain) (human), (rec.)	Fibrinogen-like domain (FLD) of human ANGPTL2 (aa 245-493) is fused at the N-terminus to a FLAG [®] -tag.	ALX-201-392-C010 ALX-201-392-C050	10 μg 50 μg
ANGPTL3 (human), (rec.)	Human ANGPTL3 (aa 1-460) is fused at the C-terminus to a FLAG [®] -tag.	ALX-201-359-C010 ALX-201-359-C050	10 μg 50 μg
ANGPTL3 (coiled-coil domain) (human), (rec.)	Coiled-coil domain (CCD) of human ANGPTL3 (aa 1-222) is fused at the C-terminus to a FLAG [®] -tag.	ALX-201-378-C010 ALX-201-378-C050	10 μg 50 μg
ANGPTL3 (fibrinogen-like domain) (human), (rec.)	Fibrinogen-like domain (FLD) of human ANGPTL3 (aa 224-460) is fused at the N-terminus to a FLAG [®] -tag.	ALX-201-380-C010 ALX-201-380-C050	10 μg 50 μg
ANGPTL3 (mouse), (rec.)	Mature mouse ANGPTL3 (aa 17-455) is fused at the N-terminus to a FLAG [®] -tag.	ALX-201-391-C010 ALX-201-391-C050	10 μg 50 μg
ANGPTL3 (coiled-coil domain) (mouse), (rec.) (His)	The signal peptide and the coiled-coil domain (CCD) of mouse ANGPTL3 (aa 1-206) are fused at the C-terminus to a His-tag.	ALX-201-412-C010 ALX-201-412-C050	10 μg 50 μg
ANGPTL3 (fibrinogen-like domain) (mouse), (rec.)	Fibrinogen-like domain (FLD) of mouse ANGPTL3 (aa 241-454) is fused at the N-terminus to a FLAG [®] -tag.	ALX-201-405-C010 ALX-201-405-C050	10 μg 50 μg
ANGPTL4 (human), (rec.)	Mature human ANGPTL4 (aa 26-406) is fused at the C-terminus to a FLAG [®] -tag.	ALX-201-338-C010 ALX-201-338-C050	10 μg 50 μg
ANGPTL4 (intact form) (human), (rec.) (His-tag)	The signal peptide and the mature peptide of human ANGPTL4 (aa 1-406) are fused at the C-terminus to a His-tag.	ALX-201-431-C010	10 μg
ANGPTL4 (coiled-coil domain) (human), (rec.)	Signal peptide and coiled-coil domain (CCD) of human ANGPTL4 (aa 1-161) is fused at the C-terminus to a FLAG [®] -tag.	ALX-201-373-C010 ALX-201-373-C050	10 μg 50 μg
ANGPTL4 (fibrinogen-like domain) (human), (rec.)	Fibrinogen-like domain (FLD) of human ANGPTL4 (aa 166-406) is fused at the N-terminus to a FLAG [®] -tag.	ALX-201-379-C010 ALX-201-379-C050	10 μg 50 μg
ANGPTL4 (mouse), (rec.)	Mouse ANGPTL4 (aa 1-410) is fused at the C-terminus to a FLAG [®] -tag.	ALX-201-384-C010 ALX-201-384-C050	10 μg 50 μg
ANGPTL4 (coiled-coil domain) (mouse), (rec.) (His-tag)	The signal peptide and the coiled-coil domain (CCD) of mouse ANGPTL4 (aa 1-162) are fused at the C-terminus to a His-tag.	ALX-201-413-C010 ALX-201-413-C050	10 μg 50 μg
ANGPTL4 (fibrinogen-like domain) (mouse), (rec.)	Fibrinogen-like domain (FLD) of mouse ANGPTL4 (aa 167-410) is fused at the N-terminus to a FLAG [®] -tag.	ALX-201-424-C010 ALX-201-424-C050	10 μg 50 μg
ANGPTL4 (intact form) (rat), (rec.) (His-tag)	The signal peptide and the mature peptide of rat ANGPTL4 (aa 1-405) are fused at the C-terminus to a His-tag.	ALX-201-432-C010	10 μg
ANGPTL5 (coiled-coil domain) (human), (rec.)	Signal peptide and coiled-coil domain (CCD) of human ANGPTL5 (aa 1-130) is fused at the C-terminus to a FLAG [®] -tag.	ALX-201-385-C010 ALX-201-385-C050	10 μg 50 μg
ANGPTL5 (fibrinogen-like domain) (human), (rec.)	Fibrinogen-like domain (FLD) of human ANGPTL5 (aa 146-388) is fused at the N-terminus to a FLAG [®] -tag.	ALX-201-393-C010 ALX-201-393-C050	10 μg 50 μg
ANGPTL6 (human), (rec.)	Mature human ANGPTL6 (aa 21-470) is fused at the N-terminus to a FLAG [®] -tag.	ALX-201-337-C010 ALX-201-337-C050	10 μg 50 μg
ANGPTL6 (fibrinogen-like domain) (human), (rec.)	Fibrinogen-like domain (FLD) of human ANGPTL6 (aa 231-470) is fused at the N-terminus to a FLAG [®] -tag.	ALX-201-394-C010 ALX-201-394-C050	10 μg 50 μg
ANGPTL7 (human), (rec.)	Human ANGPTL7 (aa 1-346) is fused at the C-terminus to a FLAG [®] -tag.	ALX-201-368-C010 ALX-201-368-C050	10 μg 50 μg
ANGPTL7 (fibrinogen-like domain) (human), (rec.)	Fibrinogen-like domain (FLD) of human ANGPTL7 (aa 126-346) is fused at the N-terminus to a FLAG [®] -tag.	ALX-201-395-C010 ALX-201-395-C050	10 μg 50 μg

Polyclonal Antibodies

Product	Specificity	Application	Prod. No.	Size
ANGPTL2 (human), pAb	Recognizes the fibrinogen-like domain (FLD) of human ANGPTL2. Detects a band of ~57kDa by Western blot. Cross-reacts with full-length human ANGPTL2.	WB	ALX-210-472-C100	100 µg
ANGPTL3 (human), pAb	Recognizes human ANGPTL3. Does not cross-react with human ANGPTL4 or ANGPTL6.	WB	ALX-210-448-C100	100 µg
ANGPTL3 (human), pAb	Recognizes human ANGPTL3. Does not cross-react with other ANGPTL family proteins.	WB	ALX-210-455-C100	100 µg
ANGPTL3 (coiled-coil domain) (human), pAb	Recognizes the coiled-coil domain (CCD) of human ANGPTL3.	WB	ALX-210-463-C100	100 µg
ANGPTL3 (fibrinogen-like domain) (human), pAb	Recognizes the fibrinogen-like domain (FLD) of human ANGPTL3.	WB	ALX-210-468-C100	100 µg
ANGPTL3 (mouse), pAb	Recognizes mouse and human (weak) ANGPTL3.	WB	ALX-210-474-C100	100 µg
ANGPTL4 (human), pAb	Recognizes human ANGPTL4.	WB	ALX-210-439-C100	100 µg
ANGPTL4 (human), pAb	Recognizes the coiled-coil domain (CCD) of human ANGPTL4. Weakly cross-reacts with human ANGPTL6. Does not cross-react with other ANGPTL family proteins.	WB	ALX-210-458-C100	100 µg
ANGPTL4 (coiled-coil domain) (human), pAb	Recognizes the coiled-coil domain (CCD) of human ANGPTL4. Weakly cross-reacts with human ANGPTL2 (CCD), ANGPTL3 and ANGPTL5 (CCD).	WB	ALX-210-470-C100	100 µg
ANGPTL4 (fibrinogen-like domain) (human), pAb	Recognizes the fibrinogen-like domain (FLD) of human ANGPTL4. Weakly cross-reacts with human ANGPTL3 (FLD), ANGPTL5 (FLD), ANGPTL6 (FLD), and ANGPTL6. Does not cross-react with ANGPTL4 (CCD) or other ANGPTL family proteins.	WB	ALX-210-469-C100	100 µg
ANGPTL4 (mouse), pAb	Recognizes mouse ANGPTL4.	WB	ALX-210-475-C100	100 µg
ANGPTL5 (coiled-coil domain) (human), pAb	Recognizes the coiled-coil domain (CCD) of human ANGPTL5.	WB	ALX-210-473-C100	100 µg
ANGPTL6 (human), pAb	Recognizes human ANGPTL6.	WB	ALX-210-430-C100	100 µg
ANGPTL6 (human), pAb	Recognizes human ANGPTL6.	WB	ALX-210-438-C100	100 µg
ANGPTL7 (human), pAb	Recognizes human ANGPTL7. Weakly cross-reacts with human ANGPTL3 and ANGPTL4. Does not cross-react with ANGPTL1, ANGPTL2 and ANGPTL6.	WB	ALX-210-453-C100	100 µg
ANGPTL7 (coiled-coil domain) (human), pAb	Recognizes the coiled-coil domain (CCD) of human ANGPTL7 and the ANGPTL7 full length protein. Weakly cross-reacts with the CCD of human ANGPTL2, ANGPTL3, ANGPTL4, and ANGPTL5. Weakly cross-reacts with ANGPTL6 and ANGPTL3 full length protein. Does not cross-react with the fibrinogen like domain (FLD) of ANGPTL7.	WB	ALX-210-499-C100	100 µg

Monoclonal Antibodies

Product	Specificity	Application	Prod. No.	Size
ANGPTL3 (human), mAb (Kairos-37)	Recognizes the fibrinogen-like domain (FLD) of human ANGPTL3. Detects a band of ~68kDa and a cleaved band of ~35kDa by Western blot. Does not cross-react with other ANGPTL family proteins.	WB	ALX-804-724-C050 ALX-804-724-C100	50 µg 100 µg
ANGPTL3 (human), mAb (1D10)	Recognizes human ANGPTL3. Detects bands of ~64kDa (full-length) and ~36kDa (cleaved ANGPTL3) by Western blot.	WB	ALX-804-635-R050 ALX-804-635-R100	50 µl 100 µl
ANGPTL4 (human), mAb (Kairos-1)	Recognizes the fibrinogen-like domain (FLD) of human ANGPTL4. Does not cross-react with other ANGPTL family proteins.	IHC (PS), WB	ALX-804-723-C050 ALX-804-723-C100	50 µg 100 µg
ANGPTL4 (coiled-coil domain) (human), mAb (Kairos4-153AD)	Recognizes the coiled-coil domain (CCD) of human ANGPTL4.	WB	ALX-804-731-C050 ALX-804-731-C100	50 µg 100 µg
ANGPTL4 (coiled-coil domain) (human), mAb (Kairos4-397G)	Recognizes the coiled-coil domain (CCD) of human ANGPTL4.	WB	ALX-804-732-C050 ALX-804-732-C100	50 µg 100 µg
ANGPTL4 (mouse), mAb (Kairos 142-2)	Recognizes mouse ANGPTL4. Weakly cross-reacts with the coiled-coil domain (CCD) of mouse ANGPTL4. Detects bands of ~18 and ~62kDa by Western blot. Does not cross-react with other ANGPTL family proteins.	WB	ALX-804-739-C100	100 µg
ANGPTL6 (human), mAb (Kairos-60)	Recognizes human ANGPTL6. Does not cross-react with other ANGPTL family proteins.	WB	ALX-804-725-C050 ALX-804-725-C100	50 µg 100 µg
ANGPTL7 (human), mAb (Kairos 108-4)	Recognizes human ANGPTL7. Detects a band of ~45kDa by Western blot. Weakly cross-reacts with human ANGPTL7 (CCD).	IHC (PS), WB	ALX-804-738-C100	100 µg
ANGPTL7 (human), mAb (Kairos 397-7)	Recognizes human ANGPTL7. Detects a band of ~45kDa by Western blot. Weakly cross-reacts with the fibrinogen-like domain (FLD) of human ANGPTL7.	WB	ALX-804-740-C100	100 µg

ANGPTL ELISA Kits

ANGPTL3 (human) ELISA Kit

AG-45A-0014EK-KI01	1 x 96 wells
AG-45A-0014TP-KI01	Twin Plex 2 x 96 wells
AG-45A-0014PP-KI01	Penta Plex 5 x 96 wells

For the quantitative determination of ANGPTL3 in human serum, plasma or cell culture supernatants. **SENSITIVITY:** 150pg/ml (range 0 to 20ng/ml).

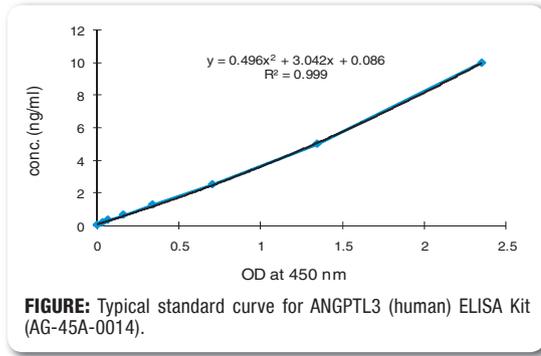


FIGURE: Typical standard curve for ANGPTL3 (human) ELISA Kit (AG-45A-0014).

ANGPTL3 (mouse/rat) Dual ELISA Kit

AG-45A-0015EK-KI01	1 x 96 wells
AG-45A-0015TP-KI01	Twin Plex 2 x 96 wells
AG-45A-0015PP-KI01	Penta Plex 5 x 96 wells

For the quantitative determination of ANGPTL3 in mouse or rat serum, plasma or cell culture supernatants. **SENSITIVITY:** 15pg/ml (range 0 to 2ng/ml).

ANGPTL6 (human) ELISA Kit

AG-45A-0016EK-KI01	1 x 96 wells
AG-45A-0016TP-KI01	Twin Plex 2 x 96 wells
AG-45A-0016PP-KI01	Penta Plex 5 x 96 wells

For the quantitative determination of ANGPTL6 in human serum, plasma or cell culture supernatants. **SENSITIVITY:** 1.2ng/ml (range 0 to 200ng/ml).

LIT: Serum Levels of Angiotensin-Related Growth Factor Are Increased in Pre-eclampsia: H. Stepan, et al.; Am. J. Hypertens. **22**, 314 (2009)

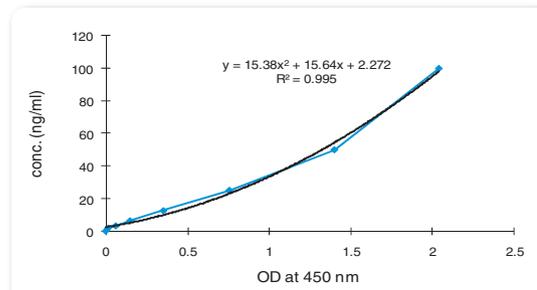


FIGURE: Typical standard curve for ANGPTL6 (human) ELISA Kit (AG-45A-0016).

Latest Insight

ANGPTL4 Deficiency Protects Against Atherosclerosis

Angiotensin-like protein 4 (ANGPTL4) has been shown to regulate lipoprotein metabolism through the inhibition of lipoprotein lipase (LPL). In 2009, H. Adachi, et al. generated ApoE(-/-)Angptl 4(-/-) mice to study the effect of ANGPTL4 deficiency on lipid metabolism and atherosclerosis. They showed that fasting and postolive oil-loaded triglyceride (TG) levels were largely decreased in ApoE(-/-)Angptl 4(-/-) mice compared with ApoE(-/-)Angptl 4(+/-) mice. In addition, a significant reduction in atherosclerotic lesion size could be detected in ApoE(-/-)Angptl 4(-/-) mice. Overall, they proposed that genetic knockout of ANGPTL4 protects ApoE(-/-) mice against development and progression of atherosclerosis and strongly suppresses the ability of the macrophages to become foam cells *in vitro*.

LIT: Angptl 4 deficiency improves lipid metabolism, suppresses foam cell formation and protects against atherosclerosis: H. Adachi, et al.; BBRC **379**, 806 (2009)

ANGPTL4 (human), mAb (Kairos-1)

ALX-804-723-C050	50 µg
ALX-804-723-C100	100 µg

CLONE: Kairos-1. **ISOTYPE:** Mouse IgG1. **IMMUNOGEN:** Recombinant human ANGPTL4. **SPECIFICITY:** Recognizes the fibrinogen-like domain (FLD) of human ANGPTL4. Does not cross-react with other ANGPTL family proteins. **APPLICATION:** IHC (PS), WB.

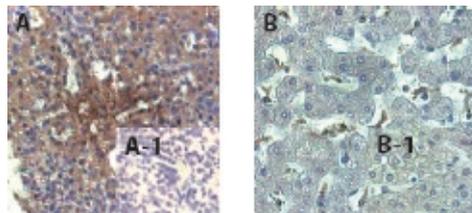


FIGURE: Immunohistochemical staining of ANGPTL4 using ANGPTL4 (human), mAb (Kairos-1) (Prod. No. ALX-804-723) in human tissue at 1:500 dilution.

A. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human spleen (200x).

A-1. Isotype control (negative control).

B. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human liver (200x).

B-1. Isotype control (negative control).



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