

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                                         |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                                   |
| <b>Specificity</b>        | Detects human Angiopoietin-like Protein 4/ANGPTL4 Antibody in direct ELISA.                                                                                                                                                                                                             |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2B</sub> Clone # 944740                                                                                                                                                                                                                                       |
| <b>Purification</b>       | Protein A or G purified                                                                                                                                                                                                                                                                 |
| <b>Immunogen</b>          | Mouse myeloma cell line, NS0-derived human Angiopoietin-like Protein 4/ANGPTL4 protein<br>Gly26-Ser406<br>Accession # Q9BY76                                                                                                                                                            |
| <b>Conjugate</b>          | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm                                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide.<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## 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.

|                       |                                                                                                                                                                                                           |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Flow Cytometry</b> | Titration recommended for optimal concentration with starting range of 0.1-1 µg/1 million cells. Sample used for this experiment was CHO cells transfected with hANGPTL4 and mCherry vs irrelevant cells. |
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## PREPARATION AND STORAGE

|                                |                                                                                                                                                    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.                                  |
| <b>Stability &amp; Storage</b> | <b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul> |

## BACKGROUND

Angiopoietin-like 4 (ANGPTL4), also known as FIAF, FARP, and PGAR, is a 55 kDa glycoprotein secreted by the liver and fat tissue. It is structurally related to the angiopoietins and contains an N-terminal coiled coil domain and a C-terminal fibrinogen-like domain which can be proteolytically separated *in vivo* (1). Mature human ANGPTL4 shares 26%-30% amino acid (aa) sequence identity with ANGPTL1, 2, 3, 5, 6, and 7. It shares approximately 75% aa sequence identity with mouse and rat ANGPTL4. The coiled coil domain, which is not glycosylated, mediates the formation of variable sized disulfide-linked oligomers (2). This domain directly inhibits lipoprotein lipase, resulting in increased circulating triglyceride levels (3, 4). In humans, the N-terminal fragment and full length ANGPTL4 physically associate with HDL (4). In mouse, however, full length ANGPTL4 associates with HDL, while the N-terminal fragment associates with LDL (4). Circulating ANGPTL4 is decreased in type II diabetics with a subsequent loss of its normal plasma glucose lowering activity (5). Its expression in adipose tissue is induced by fasting and suppressed by feeding (6). In hypoxic areas, ANGPTL4 is induced in both vascular endothelial cells and tumor cells (7, 8). The N-terminal fragment can function as an angiogenesis inhibitor (7, 8). In contrast, the C-terminal fragment modulates cell adhesion through interactions with heparan sulfate proteoglycans, Integrins β1 and β5, Vitronectin, and Fibronectin, thereby promoting keratinocyte migration and wound healing (7, 9, 10). ANGPTL4 additionally enhances the survival of hematopoietic and mesenchymal stem cells (11, 12). The expression of an undersialylated form of ANGPTL4 in renal podocytes contributes to proteinuria and nephrotic syndrome (13).

## References:

1. Zhu, P. *et al.* (2012) *Biosci. Rep.* **32**:211.
2. Ge, H. *et al.* (2004) *J. Biol. Chem.* **279**:2038.
3. Sukonina, V. *et al.* (2006) *Proc. Natl. Acad. Sci. USA* **103**:17450.
4. Mandard, S. *et al.* (2006) *J. Biol. Chem.* **281**:934.
5. Xu, A. *et al.* (2005) *Proc. Natl. Acad. Sci. USA* **102**:6086.
6. Kersten, S. *et al.* (2000) *J. Biol. Chem.* **275**:28488.
7. Cazes, A. *et al.* (2006) *Circ. Res.* **99**:1207.
8. Le Jan, S. *et al.* (2003) *Am. J. Pathol.* **162**:1521.
9. Goh, Y.Y. *et al.* (2010) *Am. J. Pathol.* **177**:2791.
10. Goh, Y.Y. *et al.* (2010) *J. Biol. Chem.* **285**:32999.
11. Blank, U. *et al.* (2012) *Eur. J. Haematol.* **89**:198.
12. Hou, M. *et al.* (2014) *PLoS ONE* **9**:e85808.
13. Clement, L.C. *et al.* (2011) *Nat. Med.* **17**:117.

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