



Angiopoietin-Like Protein 4 Human, Sheep Polyclonal Antibody

Product Data Sheet

Source of Antigen: *E. coli*

Host: Sheep

Cat. No.:

RD184073100-01 (0.1 mg)

Other names: Angiopoietin-related protein 4, Hepatic fibrinogen/angiopoietin-related protein, HFARP, ANGPTL4, ARP4, HFARP, PGAR, PP1158, PSEC0166, UNQ171/PRO197, FIAF

Research topic

Animal studies, Energy metabolism and body weight regulation

Preparation

The antibody was raised in sheep by immunization with the recombinant Human ANGPTL4.

Amino Acid Sequence

The immunization antigen (25 kDa) is a protein containing 220 AA of recombinant Human ANGPTL4. N-Terminal His-tag, 16 extra AA (highlighted).

MRGSHHHHHH GMASHMGPVQ SKSPRFASWD EMNVLAHGLL QLGQGLREHA ERTRSQLSAL ERRLSACGSA CQGTEGSTDL
PLAPESRVDP EVLHSLQTQL KAQNSRIQQL FHKVAQQQRH LEKQHLRIQH LQSQFGLLDH KHLDEHAVAP ARRKRLPEMA
QPVDPAHNVS RLHRLPRDCQ ELFQVGERQS GLFEIQPQGS PPFLVNCKMT SDGGWTVIQR

The amino acid sequence of the recombinant Human ANGPTL4 is 100% homologous to the amino acid sequence of the Human ANGPTL4 precursor (AA 26-229) without signal sequence.

Species Reactivity

Human

Not yet tested in other species

Purification Method

Immunoaffinity chromatography on a column with immobilized recombinant Human ANGPTL4.

Antibody Content

0.1 mg (determined by BCA method, BSA was used as a standard)

Formulation

The antibody is lyophilized in 0.05 M phosphate buffer, 0.1 M NaCl, pH 7.2. **AZIDE FREE.**

Reconstitution

Add 0.1 ml of deionized water and let the lyophilized pellet dissolve completely. Slight turbidity may occur after reconstitution, which does not affect activity of the antibody. In this case clarify the solution by centrifugation.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage/Stability

The lyophilized antibody remains stable and fully active until the expiry date when stored at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles and store frozen at -80°C. Reconstituted antibody can be stored at 4°C for a limited period of time; it does not show decline in activity after one week at 4°C.

Expiration

See vial label.

Lot Number

See vial label.

Quality Control Test

Indirect ELISA - to determine titer of the antibody

SDS PAGE - to determine purity of the antibody

Applications

ELISA, Western blotting

Introduction to the Molecule

Angiopoietin-like protein 4 (ANGPTL4) is a secreted 50 kD protein that modulates the disposition of circulating triglycerides (TG) by inhibiting lipoprotein lipase (LPL). ANGPTL4 was identified as a gene that is induced by fasting and during 3T3-L1 preadipocyte differentiation. It is one of the seven members of the angiopoietin-like family. Angptl4 is expressed ubiquitously, predominantly in adipose tissue, liver, placenta, myocardium, keratinocytes, podocytes, intestine and pituitary gland. ANGPTL4 is a fusion protein consisting of an N-terminal coiled-coil domain and a C-terminal fibrinogen-like domain. These two domains have separate biological functions. The N-terminal domain is responsible for the inhibitory effects on LPL, converting the active form of LPL into an inactive form. The C-terminus on the other hand mediates its antiangiogenic functions. These two domains are separated by a short linker that can be cleaved after secretion. Upon secretion into the circulation, ANGPTL4 is cleaved into an N-terminal domain and a C-terminal fibrinogen-like domain. The N-terminal peptide circulates as an oligomer, and the fibrinogen-like domain circulates as a monomer. The N-terminal domain of ANGPTL4 interacts directly for a short period with LPL, triggering a stable conformational switch in LPL that irreversibly inactivates the enzyme. Cleavage of ANGPTL4 appears to be tissue-dependent in humans. The liver secretes cleaved ANGPTL4, whereas adipose tissue secretes the full-length form. In mice the full-length form of ANGPTL4 is physically associated with HDL, whereas truncated ANGPTL4 is associated with low density lipoprotein. In humans, both full-length and truncated ANGPTL4 are associated with HDL. ANGPTL4 expression is upregulated by fasting, free fatty acids, PARR agonists, acute phase response, glucocorticoids, and downregulated by insulin. ANGPTL4 has been implicated in a variety of diseases, including cardiovascular disease, cancer metastasis, obesity, diabetes, wound repair, inflammation, arthritis and nephrotic syndrome. ANGPTL4 serum levels display high variability between individuals ranging from 2 to 158 ng/ml. In post-heparin plasma, ANGPTL4 is increased. ANGPTL4 is proportional to age, body fat mass, waist-hip-ratio and free fatty acids. However, it is inversely proportional to plasma high-density lipoprotein cholesterol. ANGPTL4 is a positive acute phase protein and its increase could contribute to the hypertriglyceridemia that characteristically occurs during the acute phase response by inhibiting LPL activity.

Note

This product is for research use only.

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