



Angiopoietin-Like Protein 4 (HEK) Human, Sheep Polyclonal Antibody

Product Data Sheet

Source of Antigen: HEK293

Host: Sheep

Cat. No.:

RD184073100-02 (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

Energy metabolism and body weight regulation

Preparation

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

Amino Acid Sequence

Total 392 AA. MW: 44.2 kDa (calculated). UniProtKB/Swiss-Prot Q9BY76 with C-Terminal Flag-tag, 11 extra AA (highlighted).

GPVQSKSPRF ASWDEMNVL A HGLLQLGQGL REHAERTRSQ LSALERRLSA CGSACQGTEG STDLP LAPES RVDPEVLHSL
QTQLKAQNSR IQQLFHKVAQ QQRHLEKQHL RIQHLQSQFG LLDHKHLDHE VAKPARRKRL PEMAQPDPA HNVSR LHR LP
RDCQELFQVG ERQSGLF EIQ PQGSPPFLVN CKMTSDGGWT VIQRRHDGSV DFNRPW EAYK AGFGDPHGEF WLGLEKVHSI
TGDRNSRLAV QLRDWDGNAE LLQFSVHLGG EDTAYSLQLT APVAGQLGAT TVPPSGLSVP FSTWDQDHD L RRDKNCAKSL
SGGWVFGTCS HSNLNGQYFR SIPQQRQKLK KGIFWKTWRG RYYPLQATTM LIQPM AAEAA S **AAADYKDDD DK**

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. Serum or plasma levels were determined in a limited number of studies. ANGPTL4 serum levels display high variability between individuals ranging from 2 to 158 ng/ml. In post-heparin plasma, ANGPTL4 is increased. ANGPTL4 correlates positively with age, body fat mass, waist-hip-ratio and free fatty acids but negatively with plasma high-density lipoprotein cholesterol. No correlation with triglycerides was observed in one study. 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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