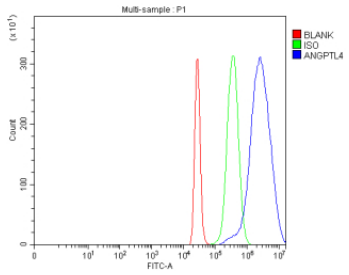
ANGPTL4 Antibody / Angiopoietin-like 4 (FY12692)

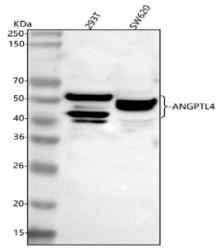
Catalog No.	Formulation	Size
FY12692	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9BY76
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This ANGPTL4 antibody is available for research use only.



Flow Cytometry analysis of 293T cells using anti-ANGPTL4 antibody. Overlay histogram showing 293T cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-ANGPTL4 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western blot analysis of ANGPTL4 using anti-ANGPTL4 antibody. Lane 1: human 293T whole cell lysates, Lane 2: human SW620 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-ANGPTL4 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Bands are detected between ~40 and 50 kDa, consistent with reported glycosylated and proteolytically processed forms of the secreted ANGPTL4 protein (predicted 45 kDa).

Description

ANGPTL4 antibody detects Angiopoietin-like 4, a secreted glycoprotein that plays critical roles in lipid metabolism, angiogenesis, wound healing, and tumor progression. Encoded by the ANGPTL4 gene on chromosome 19p13.3, the protein belongs to the angiopoietin-like family of vascular regulators, which share structural similarity to angiopoietins but act independently of the Tie receptor system. Angiopoietin-like 4 contains an N-terminal coiled-coil domain and a C-terminal fibrinogen-like domain that mediate distinct biological functions. The N-terminal region primarily regulates lipid metabolism, while the C-terminal fragment influences angiogenesis and vascular permeability.

Angiopoietin-like 4 is synthesized and secreted by adipose tissue, liver, skeletal muscle, and endothelial cells, where it modulates triglyceride homeostasis through inhibition of lipoprotein lipase (LPL). By preventing premature triglyceride hydrolysis, ANGPTL4 redistributes lipids among tissues during fasting and feeding cycles. This function has made ANGPTL4 a major focus of metabolic and cardiovascular research. Genetic studies demonstrate that loss-of-function variants in ANGPTL4 are associated with reduced plasma triglyceride levels and decreased risk of coronary artery disease, identifying it as a potential therapeutic target for dyslipidemia.

Beyond metabolism, Angiopoietin-like 4 exerts profound effects on vascular biology. It enhances endothelial barrier integrity in certain contexts while promoting permeability in others, depending on proteolytic processing and redox status. The C-terminal domain can stimulate endothelial cell migration and tube formation, processes crucial to wound healing and tumor angiogenesis. Elevated ANGPTL4 expression has been observed in hypoxic tumors, where it promotes metastasis by enhancing vascular leakiness and resistance to detachment-induced apoptosis (anoikis). Conversely, in some tissues, ANGPTL4 limits inflammation by preventing leukocyte extravasation and oxidative stress. These context-dependent effects highlight its dual regulatory capacity in physiology and disease.

The ANGPTL4 antibody is used in research focused on lipid metabolism, vascular biology, and cancer. In western blot assays, it detects both the full-length 50 kilodalton protein and its processed fragments. Immunohistochemistry demonstrates strong cytoplasmic and extracellular staining in adipocytes, endothelial cells, and hepatocytes. In cell culture studies, ANGPTL4 levels rise under hypoxic conditions or upon treatment with PPAR agonists, reflecting its transcriptional control by peroxisome proliferator-activated receptors. This antibody supports investigation into the pathways linking metabolism, angiogenesis, and inflammation.

Angiopoietin-like 4 also participates in tissue remodeling, wound repair, and fibrosis by regulating matrix metalloproteinase expression and fibroblast activity. Dysregulation contributes to pathologies such as diabetic retinopathy, where increased ANGPTL4 disrupts retinal vascular integrity. The ANGPTL4 antibody enables detection of these changes and facilitates translational research aimed at developing ANGPTL4-targeted therapies. NSJ Bioreagents provides this antibody validated for its applications, ensuring reliable detection across multiple species.

Application Notes

Optimal dilution of the ANGPTL4 antibody should be determined by the researcher.

Immunogen

E.coli-derived human ANGPTL4 recombinant protein (Position: D39-S406) was used as the immunogen for the ANGPTL4 antibody.

Storage

After reconstitution, the ANGPTL4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.