# Mouse Angiopoietin-like Protein 3/ANGPTL3 Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF136

## DESCRIPTION

| | |
|---|---|
| **Species Reactivity** | Mouse |
| **Specificity** | Detects mouse Angiopoietin-like Protein 3/ANGPTL3 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 1% cross-reactivity with recombinant human (rh) Angiopoietin-1, rhAngiopoietin-2, recombinant mouse Angiopoietin-3, rhAngiopoietin-4, and rhAngiopoietin-like factor/CDT6 is observed. |
| **Source** | Polyclonal Goat IgG |
| **Purification** | Antigen Affinity-purified |
| **Immunogen** | *S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant mouse Angiopoietin-like Protein 3/ANGPTL3<br>Ser17-Thr455<br>Accession # Q9R182 |
| **Formulation** | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS. |

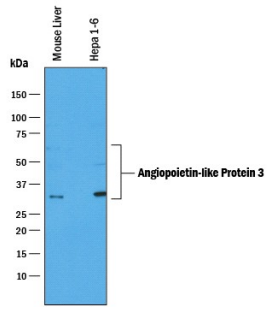
## APPLICATIONS

**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.*

| | Recommended Concentration | Sample |
|---|---|---|
| **Western Blot** | 0.25 µg/mL | See Below |
| **Immunohistochemistry** | 5-15 µg/mL | See Below |

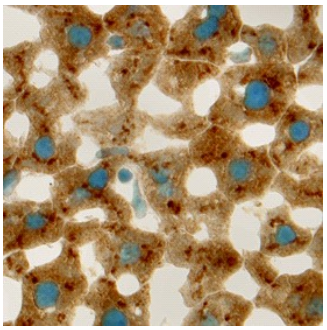
## DATA

### Western Blot




**Detection of Mouse Angiopoietin-like Protein 3/ANGPTL3 by Western Blot.** Western blot shows lysates of mouse liver tissue and Hepa 1-6 mouse hepatoma cell line. PVDF membrane was probed with 0.25 µg/mL of Goat Anti-Mouse Angiopoietin-like Protein 3/ANGPTL3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF136) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). Specific bands were detected for Angiopoietin-like Protein 3/ANGPTL3 at approximately 35 kDa (major band) and 52 & 63 kDa (minor bands, as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

### Immunohistochemistry



**Angiopoietin-like 3 in Mouse Liver.** Angiopoietin-like 3 was detected in perfusion fixed frozen sections of mouse liver using Goat Anti-Mouse Angiopoietin-like 3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF136) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to the cytoplasm of hepatocytes. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

## PREPARATION AND STORAGE

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|---|---|
| **Reconstitution** | Reconstitute at 0.2 mg/mL in sterile PBS. |
| **Shipping** | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| **Stability & Storage** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |



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## BACKGROUND

ANGPTL3 is a secreted glycoprotein that is structurally related to the angiopoietins (1-3). Mature mouse ANGPTL3 contains an N-terminal coiled-coil domain and a C-terminal fibrinogen-like domain (4). ANGPTL3 is expressed in the liver from early in development through adulthood (4, 5). Full length ANGPTL3 circulates in the plasma as do the proteolytically separated N- and C-terminal fragments containing the coiled-coil domain and fibrinogen-like domains, respectively (6, 7). ANGPTL3 is found as 70 kDa, 50 kDa, and 32 kDa species and can form weakly associated noncovalent multimers *in vitro* (5, 6). ANGPTL3 directly inhibits lipoprotein lipase (LPL), an enzyme responsible for hydrolyzing circulating triglycerides (8). This activity requires a putative heparin-binding motif that is N-terminal to the coiled-coil domain (6). Proteolytic removal of the fibrinogen-like domain from the N-terminal fragment serves to activate ANGPTL3 and increase its ability to inhibit LPL *in vitro* and function *in vivo* (6). ANGPTL3 promotes an increase in circulating triglyceride levels without altering VLDL or HDL secretion or uptake (6-8). ANGPTL3 knockout mice are hypolipidemic and have elevated LPL activity (9). ANGPTL3 expression *in vivo* is up-regulated by LXR agonists and down-regulated by insulin, leptin, and TRβ agonists (10-12). Dysregulated ANGPTL3 expression and elevated plasma triglyceride levels are characteristic of some strains of obese and diabetic mice, (7, 8, 11). ANGPTL3 does not bind Tie-1 or Tie-2 but its fibrinogen-like domain interacts with integrin αVβ3 to induce endothelial cell adhesion, migration, and neovascularization (13). ANGPTL3, secreted by fetal liver cells, also promotes the expansion of hematopoietic stem cells (14). Mature mouse ANGPTL3 shares 22%-30% amino acid (aa) sequence identity with ANGPTL1, 2, 4, 6, and 7. It shares 77% aa sequence identity with human ANGPTL3.

**References:**

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