

Human/Mouse/Rat Lipocalin-2/NGAL Antibody

Antigen Affinity-purified Polyclonal Goat IgG Catalog Number: AF1757

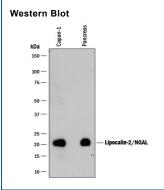
DESCRIPTION			
Species Reactivity	Human/Mouse/Rat		
Specificity	Detects human Lipocalin-2/NGAL in direct ELISAs and Western blots.		
Source	Polyclonal Goat IgG		
Purification	Antigen Affinity-purified		
Immunogen	Mouse myeloma cell line NS0-derived Recombinant Human Lipocalin-2/NGAL Gln21-Gly198 Accession # P80188		
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.		

APPLICATIONS

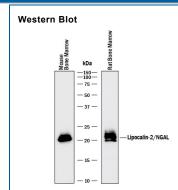
Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	0.2 μg/mL	See Below
Immunohistochemistry	5-15 μg/mL	See Below
Simple Western	2 μg/mL	See Below

DATA

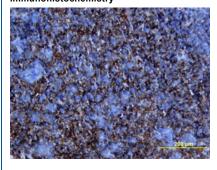


Detection of Human Lipocalin-2/NGAL by Western Blot. Western blot shows lysates of Capan-1 human pancreatic adenocarcinoma cell line and human pancreas tissue. PVDF membrane was probed with 0.2 μg/mL of Goat Anti-Human/Mouse/Rat Lipocalin-2/NGAL Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1757) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for Lipocalin-2/NGAL at approximately 22 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.



Detection of Mouse and Rat Lipocalin-2/NGAL by Western Blot. Western blot shows lysates of mouse and rat bone marrow. PVDF membrane was probed with 0.2 μg/mL of Goat Anti-Human/Mouse/Rat Lipocalin-2/NGAL Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1757) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Lipocalin-2/NGAL at approximately 22 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



Lipocalin-2/NGAL in Human Pancreatic Cancer Tissue. Lipocalin-2/NGAL was detected in immersion fixed paraffinembedded sections of human pancreatic cancer tissue using Goat Anti-Human/Mouse/ Rat Lipocalin-2/NGAL Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1757) at 15 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). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue

Sections



Lipocalin-2/NGAL in Human Pancreatic Cancer Tissue. Lipocalin-2/NGAL was detected in immersion fixed paraffinembedded sections of human pancreatic cancer tissue using Goat Anti-Human/Mouse/Rat Lipocalin-2/NGAL Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1757) at 15 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). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

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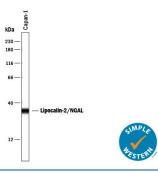




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Detection of Human Lipocalin-2/NGAL by Simple Western M. Simple Western lane view shows lysates of Capan-1 human pancreatic adenocarcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for Lipocalin-2/NGAL at approximately 34 kDa (as indicated) using 2 µg/mL of Goat Anti-Human/Mouse/Rat Lipocalin-2/NGAL Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1757) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

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 *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.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Members of Lipocalin family share a highly conserved fold with an eight-stranded antiparallel β barrel, and act as a transporters, carrying small molecules to specific cells. Lipocalin-2, also known as Neutrophil Gelatinase-Associated Lipocalin (NGAL), was originally identified as a component of neutrophil granules. It is a 25 kDa protein existing in monomeric and homo- and heterodimeric forms, the latter as a dimer with human neutrophil gelatinases (MMP-9). Its expression has been observed in most tissues normally exposed to microorganism, and its synthesis is induced in epithelial cells during inflammation. Lipocalin-2 has been implicated in a variety of processes including cell differentiation, tumorigenesis, and apoptosis. Studies indicate that Lipocalin-2 binds a bacterial catecholate sidropore bound to ferric ion such as enterobactin with a subnanomolar dissociation constant ($K_d = 0.41$ nM). The bound ferric enterobactin complex breaks down slowly in a month into dihydroxybenzoyl serine and dihydroxybenzoic acid (DHBA). It also binds to a ferric DHBA complex with much less K_d values (7.9 nM). Secretion of Lipocalin-2 in immune cells increases by stimulation of Toll-like receptor as an acute phase response to infection. As a result, it acts as a potent bacteriostatic reagent by sequestering iron. Moreover, Lipocalin-2 can alter the invasive and metastatic behavior of Ras-transformed breast cancer cells in vitro and *in vivo* by reversing epithelial to mesenchymal transition inducing activity of Ras, through restoration of E-cadherin expression, via effects on the Ras-MAPK signaling pathway.

