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 # Q6FGL5
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 as a 0.2 μm filtered solution in PBS.

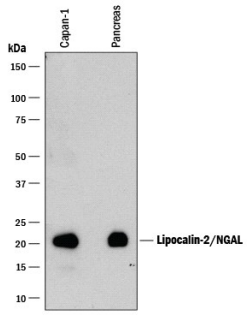
APPLICATIONS

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

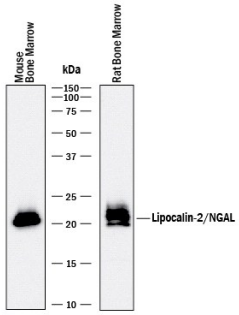
DATA

Western Blot



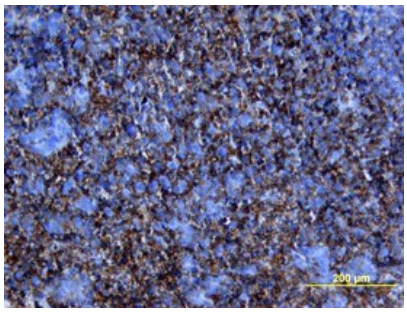
Detection of Human Lipocalin-2/NGAL by Western Blot. Western blot shows lysates of Capan-1 human pancreatic adenocarcinoma cell line and human pancreas tissue. PVDF membrane was probed with 0.2 µg/mL of Goat Anti-Human/Mouse/Rat Lipocalin-2/NGAL Antigen Affinity-purified Polyclonal Antibody (Catalog # 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.

Western Blot



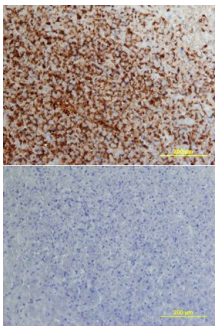
Detection of Mouse and Rat Lipocalin-2/NGAL by Western Blot. Western blot shows lysates of mouse and rat bone marrow. PVDF membrane was probed with 0.2 µg/mL of Goat Anti-Human/Mouse/Rat Lipocalin-2/NGAL Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1757) followed by HRP-conjugated Anti-Goat 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 paraffin-embedded 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 counter-stained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Immunohistochemistry



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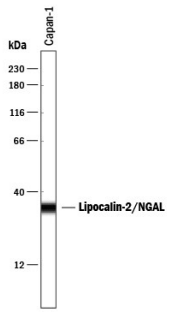
Simple Western



Detection of Human Lipocalin-2/NGAL by Simple Western™. 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.

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