

DESCRIPTION

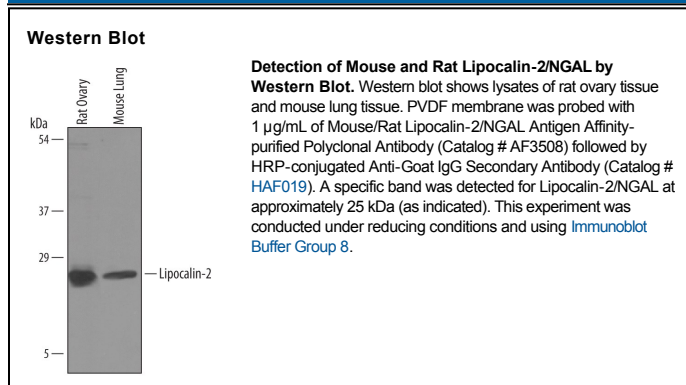
Species Reactivity	Rat
Specificity	Detects rat Lipocalin-2/NGAL in ELISAs and detects rat and mouse Lipocalin-2/NGAL in Western blots. In sandwich ELISAs, less than 0.4% cross-reactivity with recombinant mouse (rm) Lipocalin-2/NGAL-2 is observed and less than 0.2% cross-reactivity with recombinant human (rh) Lipocalin-1/NGAL-1, rhLipocalin-2/NGAL-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat Lipocalin-2/NGAL Gln21-Asn198 Accession # P30152
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	1 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Rat Lipocalin-2/NGAL (Catalog # 3508-LC), see our available Western blot detection antibodies
Rat Lipocalin-2 Sandwich Immunoassay		Reagent
ELISA Capture	0.2-0.8 µg/mL	Rat Lipocalin-2/NGAL Antibody (Catalog # AF3508)
ELISA Detection	0.1-0.4 µg/mL	Rat Lipocalin-2/NGAL Biotinylated Antibody (Catalog # BAF3508)
Standard		Recombinant Rat Lipocalin-2/NGAL (Catalog # 3508-LC)

DATA



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. <ul style="list-style-type: none"> • 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

Lipocalin-2, also known as neutrophil gelatinase-associated Lipocalin and uterocalin (NGAL), has been implicated in a variety of processes including cell differentiation, tumorigenesis, and apoptosis (1-3). It binds a bacterial catechololate sidropore bound to ferric ion such as enterobactin with a subnanomolar dissociation constant ($K_D = 0.41$ nM) (4). 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) (4). Secretion of Lipocalin-2 in immune cells increases by stimulation of Toll-like receptor as a acute phase response to infection. As a result, it acts as a potent bacteriostatic reagents by sequestering iron (5). 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 (6). In the kidney, Lipocalin-2-mediated iron trafficking may be involved in protection from renal injury, and it has been implicated as a marker for early kidney failure (7, 8).

References:

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7. Mori, K. *et al.* (2005) *J. Clin. Invest.* **115**:610.
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