

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Lipocalin-2/NGAL in direct ELISAs. In sandwich immunoassays, no cross-reactivity or interference with recombinant human (rh) Lipocalin-1, rhLipocalin-2, or recombinant rat Lipocalin-2 is observed.
Source	Monoclonal Rat IgG _{2A} Clone # 228418
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Lipocalin-2/NGAL Gln21-Asn200 Accession # P11672
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

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.

Mouse Lipocalin-2/NGAL Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Mouse Lipocalin-2/NGAL Antibody (Catalog # MAB18571)
ELISA Detection	0.5-2.0 µg/mL	Mouse Lipocalin-2/NGAL Biotinylated Antibody (Catalog # BAM1857)
Standard		Recombinant Mouse Lipocalin-2/NGAL (Catalog # 1857-LC)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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

Mouse Lipocalin-2 was cloned from mouse kidney cells (1). Its very high level of expression at the post-stratum uterus gave it the name uterocalin (2). Lipocalin-2 has been implicated in a variety of processes including cell differentiation, tumorigenesis, and apoptosis (3-5). Studies indicate that Lipocalin-2 binds a bacterial catecholate siderophore that is bound to a ferric ion, such as enterobactin, with a subnanomolar dissociation constant ($K_D = 0.41$ nM) (6). 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) (6). Secretion of Lipocalin-2 in immune cells increases in response to 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 (7). Moreover, Lipocalin-2 can alter the invasive and metastatic behavior of Ras-transformed breast cancer cells *in vitro* and *in vivo* by reversing the epithelial to mesenchymal transition inducing activity of Ras, through restoration of E-cadherin expression, via effects on the Ras-MAPK signaling pathway (8).

References:

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7. Flo, T.H. *et al.* (2004) *Nature* **432**:917.
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