

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Lipocalin-2/NGAL in ELISAs. In sandwich immunoassays, no cross-reactivity with recombinant human (rh) Lipocalin-1, rhLipocalin-2 or recombinant rat Lipocalin-2 is observed.
Source	Monoclonal Rat IgG _{2A} Clone # 228421
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	NS0-derived recombinant mouse Lipocalin-2/NGAL Gln21-Asn200 Accession # P11672
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.

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. *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

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:

1. Hrabá-Renevey, s. *et al.* (1989) *Oncogene*. **4**:601.
2. Liu, Q. *et al.* (1993) *Mol Reprod Dev*. **46**:507.
3. Kjeldsen L, *et al.* (2000) *Biochim Biophys Acta*. **1482**:272.
4. Devireddy, L.R. *et al.* (2001) *Science* **293**:829.
5. Yang, M.B. *et al.* (2002) *Mol. Cell*. **10**:1045.
6. Goetz, D.H. *et al.* (2002) *Mol. Cell* **10**:1033.
7. Flo, T.H. *et al.* (2004) *Nature* **432**:917.
8. Hanai, J. *et al.* (2005) *J. Biol. Chem.* **280**:13641.