

#### DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Mouse                                                                                                        |
| <b>Specificity</b>                                                                                                                                                                                      | Detects mouse Lipocalin-2/NGAL in direct ELISAs and Western blots.                                           |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Goat IgG                                                                                          |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                                    |
| <b>Immunogen</b>                                                                                                                                                                                        | Mouse myeloma cell line NS0-derived recombinant mouse Lipocalin-2/NGAL<br>Gln21-Asn200<br>Accession # P11672 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm                              |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                                 |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                                              |

#### 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.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunoprecipitation</b>  | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### 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).

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