# Mouse Lipocalin-2/NGAL Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1857

## DESCRIPTION

| | |
|---|---|
| **Species Reactivity** | Mouse |
| **Specificity** | Detects mouse 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 mouse Lipocalin-2/NGAL<br>Gln21-Asn200<br>Accession # P11672 |
| **Formulation** | Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS. |

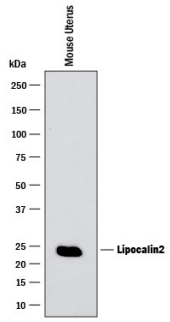
## APPLICATIONS

**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** | 0.25 µg/mL | See Below |
| **Immunohistochemistry** | 3-15 µg/mL | See Below |
| **Immunoprecipitation** | 25 µg/mL | Conditioned cell culture medium spiked with Recombinant Mouse Lipocalin-2/NGAL (Catalog # 1857-LC), see our available Western blot detection antibodies |
| **Simple Western** | 5 µg/mL | See Below |

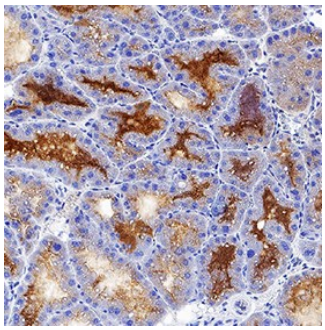
## DATA

### Western Blot



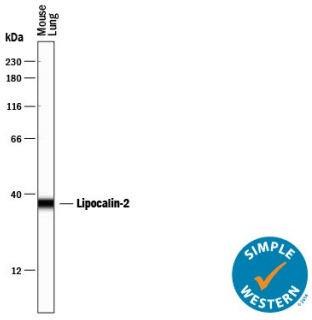

**Detection of Mouse Lipocalin-2/NGAL by Western Blot.** Western blot shows lysates of mouse uterus tissue. PVDF membrane was probed with 0.25 µg/mL of Goat Anti-Mouse Lipocalin-2/NGAL Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1857) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Lipocalin-2/NGAL at approximately 24 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

### Immunohistochemistry



**Lipocalin-2/NGAL in Mouse Mammary Gland.** Lipocalin-2/NGAL was detected in perfusion fixed frozen sections of mouse mammary gland using Goat Anti-Mouse Lipocalin-2/NGAL Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1857) at 3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Goat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC004). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to extracellular areas in ducts. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

### Simple Western




**Detection of Mouse Lipocalin-2/NGAL by Simple Western™.** Simple Western lane view shows lysates of mouse lung tissue, loaded at 0.2 mg/mL. A specific band was detected for Lipocalin-2/NGAL at approximately 37 kDa (as indicated) using 5 µg/mL of Goat Anti-Mouse Lipocalin-2/NGAL Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1857) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.



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# Mouse Lipocalin-2/NGAL Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1857

## 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.<br>*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.**<br>• 12 months from date of receipt, -20 to -70 °C as supplied.<br>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>• 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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