

# Mouse LCN2 / NGAL Protein

Catalog Number: 50060-MNAH



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

24p3; AW212229; Sip24

### Protein Construction:

A DNA sequence encoding the mouse LCN2 (NP\_032517.1) (Met1-Asn200) was expressed.

**Source:** Mouse

**Expression Host:** HEK293

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE.

### Endotoxin:

< 1.0 EU per µg protein as determined by the LAL method.

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Gln 21

### Molecular Mass:

The recombinant mouse LCN2 consists of 180 amino acids and predicts a molecular mass of 20.9 kDa.

### Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

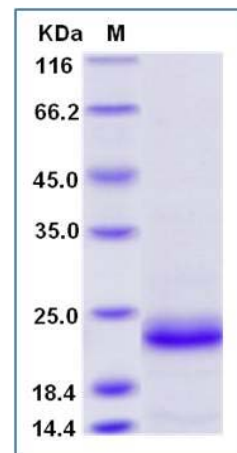
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Lipocalin-2 (LCN2), also known as neutrophil gelatinase-associated lipocalin (NGAL), is a 25 kDa protein belonging to the lipocalin superfamily. It was initially found in activated neutrophils, however, many other cells, like kidney tubular cells, may produce NGAL in response to various insults. This protein is released from injured tubular cells after various damaging stimuli, is already known by nephrologists as one of the most promising biomarkers of incoming Acute Kidney Injury (AKI). Recent evidence also suggests its role as a biomarker in a variety of other renal and non-renal conditions. Moreover, recent studies seem to suggest a potential involvement of this factor also in the genesis and progression of chronic kidney diseases. NGAL is the first known mammalian protein which specifically binds organic molecules called siderophores, which are high-affinity iron chelators. NGAL, first known as an antibacterial factor of natural immunity, and an acute phase protein, is currently one of the most interesting and enigmatic proteins involved in the process of tumor development. acting as an intracellular iron carrier and protecting MMP9 from proteolytic degradation, NGAL has a clear pro-tumoral effect, as has already been observed in different tumors (e.g. breast, stomach, oesophagus, brain) in humans. In thyroid carcinomas, NGAL is strongly induced by NF-κB, an important factor involved both in tumor growth and in the link between chronic inflammation and neoplastic development. Thus, Lipocalin-2 (LCN2/NGAL) has been implicated in a variety of processes including cell differentiation, proliferation, survival and morphogenesis.

## References

- 1.Schmidt-Ott KM, *et al.* (2006) Neutrophil gelatinase-associated lipocalin-mediated iron traffic in kidney epithelia. *Curr Opin Nephrol Hypertens.* 15(4): 442-9.
- 2.Bolignano D, *et al.* (2010) Neutrophil gelatinase-associated lipocalin (NGAL) in human neoplasias: a new protein enters the scene. *Cancer Lett.* 288(1): 10-6.
- 3.Soni SS, *et al.* (2010) NGAL: a biomarker of acute kidney injury and other systemic conditions. *Int Urol Nephrol.* 42(1): 141-50.

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