

NGAL (HYB 211-01): sc-59622

BACKGROUND

In addition to the monomeric mammalian progelatinase, two additional forms of progelatinase have been identified. The shorter of these additional forms is a covalently linked, disulfide-bridged protein that heterodimerizes with a short protein; an α 2-Microglobulin-related protein known as neutrophil gelatinase-associated lipocalin (NGAL), which is moderately expressed in breast and lung tissues. NGAL belongs to the lipocalin family and has a high degree of similarity with rat α 2-Microglobulin-related protein and mouse protein 24p3. NGAL is able to bind a derivative of the bacterial chemotactic peptide, suggesting that it has important immuno-modulatory functions. NGAL has been described as an inflammatory protein; it is released into the circulation as a result of the inflammatory activation of leukocytes initiated by the extra-corporal circulation. In addition, NGAL synthesis is induced in epithelial cells in inflammatory and neoplastic colorectal diseases. In conclusion, NGAL may serve as a scavenger of bacterial products to function in the anti-inflammatory process.

REFERENCES

1. Triebel, S., et al. 1992. A 25 kDa α -2-Microglobulin-related protein is a component of the 125 kDa form of human gelatinase. *FEBS Lett.* 314: 386-388.
2. Kjeldsen, L., et al. 1993. Isolation and primary structure of NGAL, a novel protein associated with human neutrophil gelatinase. *J. Biol. Chem.* 268: 10425-10432.
3. Bundgaard, J.R., et al. 1994. Molecular cloning and expression of a cDNA encoding NGAL: a lipocalin expressed in human neutrophils. *Biochem. Biophys. Res. Commun.* 202: 1468-1475.
4. Nielsen, B.S., et al. 1996. Induction of NGAL synthesis in epithelial cells of human colorectal neoplasia and inflammatory bowel diseases. *Gut* 38: 414-420.
5. Stoesz, S.P., et al. 1998. Heterogeneous expression of the lipocalin NGAL in primary breast cancers. *Int. J. Cancer* 79: 565-572.
6. Jonsson, P., et al. 1999. Extracorporeal circulation causes release of neutrophil gelatinase-associated lipocalin (NGAL). *Mediators Inflamm.* 8: 169-171.
7. Zhang, H., et al. 2007. Upregulation of neutrophil gelatinase-associated lipocalin in oesophageal squamous cell carcinoma: significant correlation with cell differentiation and tumour invasion. *J. Clin. Pathol.* 60: 555-561.
8. Hirsch, R., et al. 2007. NGAL is an early predictive biomarker of contrast-induced nephropathy in children. *Pediatr. Nephrol.* 22: 2089-2095.
9. Suzuki, M., et al. 2008. Neutrophil gelatinase-associated lipocalin as a biomarker of disease activity in pediatric lupus nephritis. *Pediatr. Nephrol.* 23: 403-412.

CHROMOSOMAL LOCATION

Genetic locus: LCN2 (human) mapping to 9q34.11.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

SOURCE

NGAL (HYB 211-01) is a mouse monoclonal antibody raised against full length native NGAL isolated from neutrophils of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

NGAL (HYB 211-01) is recommended for detection of native and denatured forms of NGAL of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NGAL siRNA (h): sc-43969, NGAL shRNA Plasmid (h): sc-43969-SH and NGAL shRNA (h) Lentiviral Particles: sc-43969-V.

Molecular Weight of NGAL: 23 kDa.

SELECT PRODUCT CITATIONS

1. Groeneveld, M.E., et al. 2019. The potential role of neutrophil gelatinase-associated lipocalin in the development of abdominal aortic aneurysms. *Ann. Vasc. Surg.* 57: 210-219.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.