

Neutrophil gelatinase-associated lipocalin (NGAL) Active Protein | NGAL active protein

Active Neutrophil gelatinase-associated lipocalin (NGAL)

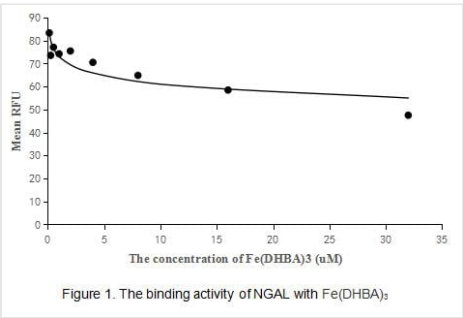
CATALOG # AAA161845	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
-------------------------------	-----------------------	---

PRODUCT SYNONYMS

Neutrophil gelatinase-associated lipocalin (NGAL); Active Neutrophil gelatinase-associated lipocalin (NGAL); Neutrophil gelatinase-associated lipocalin; Lipocalin-2; LCN2; p25; Lipocalin 2; Oncogene 24p3; 25 kDa alpha-2-microglobulin-related subunit of MMP-9; Siderocalin LCN24; NGAL active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	Greater than 90% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Gln21~Gly1 98
Applicable Applications for NGAL active protein	Activity Assay, Cell Culture
Species	Human
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	9.2
Research Area	Infection immunity
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

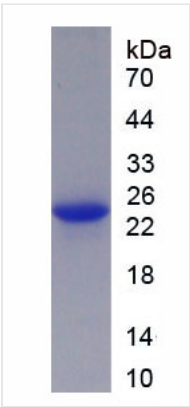


Bioactivity

Lipocalin-2, also known as Neutrophil Gelatinase-Associated Lipocalin (NGAL), was originally identified as a component of neutrophil granules. It is a 25 kDa protein existing in monomeric and homo- and heterodimeric forms, the latter as a dimer with human neutrophil gelatinases (MMP-9). Its expression has been observed in most tissues normally exposed to microorganism, and its synthesis is induced in epithelial cells during inflammation. Lipocalin-2 has been implicated in a variety of processes including cell differentiation, tumorigenesis, and apoptosis. Studies indicate that Lipocalin-2 binds a bacterial catecholate siderophore bound to ferric ion such as enterobactin with a subnanomolar dissociation constant ($K_d = 0.41$ nM). 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). The activity assay of recombinant human NGAL was measured by its ability to bind Iron(III) dihydroxybenzoic acid Fe(DHBA)₃. The binding of Fe(DHBA)₃ results in the quenching of Trp fluorescence in Lipocalin-2. The recombinant human NGAL was diluted to 100 ug/ml in assay buffer (50 mM Tris, 10 mM CaCl₂, 150 mM NaCl, pH 7.5). 50 uL of the different concentrations of Fe(DHBA)₃ and 50 uL of 100 ug/ml rmNGAL was loaded into the plate. Incubated at room temperature for 30 minutes, then read at excitation and emission wavelengths of 280 nM and 340 nM in endpoint mode. The result was shown in Figure 1, the recombinant human Lipocalin-2 can bind >8 uM of Fe(DHBA)₃.

SDS-PAGE

Figure. SDS-PAGE



ADDITIONAL INFORMATION

Product Categories/Family for NGAL active protein	Active proteins
---	-----------------

NCBI AND UNIPROT INFORMATION

NCBI GI #	49457137
UniProt Accession #	P80188; P30150; Q5SYV9; Q5SYW0; Q6FGL5; Q92683; A6NII8; B4DWV4; B7ZAA2
Molecular Weight	22,588 Da
NCBI Official Full Name	LCN2
UniProt Protein Name	Neutrophil gelatinase-associated lipocalin
UniProt Gene Name	LCN2
UniProt Synonym Gene Names	HNL; NGAL; NGAL
UniProt Entry Name	NGAL_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.