

Recombinant Human NGAL (Lipocalin-2) (ELISA Std.)

Catalog# / Size	562401 / 4 pack
Regulatory Status	RUO
Other Names	Lipocalin 2, LCN2, Siderocalin
Description	NGAL, also known as lipocalin 2, LCN2, and siderocalin, is a small molecule composed of 178 amino acids. It belongs to the lipocalin superfamily of 20 structurally related secreted proteins. Members of the lipocalin family share a highly conserved fold with an eight stranded antiparallel β barrel, and act as a transporter, carrying small molecules to specific cells. NGAL occurs predominantly in a monomeric form, with a small percentage occurring as a dimer or trimer. It was originally identified as a 25 kD protein covalently bound to gelatinase from human neutrophils. It is a critical component of innate immunity because its ability to bind iron-siderophore complexes limits bacterial growth. Human NGAL is expressed at very low levels in human tissues, including kidney, trachea, lungs, stomach, and colon, and its expression increases greatly in the presence of inflammation and injured epithelia. In addition to its role in innate immunity, it is a promising biomarker for acute kidney injury that is beginning to be used in clinical practice in addition to research studies.

Product Details

Source	Human NGAL, (amino acids Gln21-Gly198, Accession # NP_005555) was expressed with a C-terminal His 10 tag in 293E cells.
Molecular Mass	The 195 amino acid recombinant protein has a predicted molecular mass of approximately 22 kD. The DTT-reduced and non-reduced proteins migrate at approximately 24-28 and 23-26 kD by SDS-PAGE respectively. The N-terminal amino acid is blocked.
Purity	>95%, as determined by Coomassie stained SDS-PAGE
Formulation	Lyophilized in sterile-filtered PBS, pH 7.2, containing 1% BSA, 0.09% sodium azide, and protease inhibitors.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	Upon receipt, store unopened vials between 2°C and 8°C immediately and use within 12 months from date of receipt. Prior to use, reconstitute the lyophilized powder with 0.2 ml of PBS containing a carrier protein (e.g., 1% BSA, protease free), pH 7.4. Re-cap vial, vortex. Allow the reconstituted standard to sit at room temperature for 15 minutes, vortex again to mix completely. The reconstituted standard stock solution can be aliquoted into polypropylene vials and stored at -70°C for up to one month. Do not re-use diluted standards. Use a manual defrost freezer and avoid repeated freeze thaw cycles.
Application	ELISA - Quality tested
Recommended Usage	Each lot of this protein is quality control tested by ELISA. For use as an ELISA standard, a standard curve comprised of doubling dilutions from 2500 pg/mL to 39.1 pg/mL is suggested. It is recommended that the reagent be titrated for optimal performance.
Application Notes	This NGAL protein is useful as a standard for a mouse NGAL sandwich ELISA, using unlabeled M0415B7 antibody as capture and biotinylated M049D6 antibody as detection.

Antigen Details

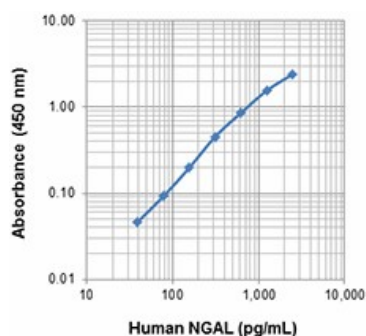
Structure	Monomer
Distribution	Secreted by epithelial cells, macrophages, neutrophils; increased levels have been observed in plasma, serum, and urine in various conditions such as metastatic breast and colorectal cancer, acute kidney injury, pancreatitis and preeclampsia
Function	Apoptosis, Innate immunity, renal development

Interaction	Macrophages, neutrophils
Ligand/Receptor	SLC22A17 (24p3R)
Biology Area	Apoptosis/Tumor Suppressors/Cell Death, Cell Biology, Immunology, Innate Immunity, Signal Transduction
Antigen References	<ol style="list-style-type: none"> 1. Kjeldsen L, <i>et al.</i> 1993. <i>J. Biol. Chem.</i> 268(14):10425-32. 2. Goetz DH, <i>et al.</i> 2002. <i>Mol. Cell</i> 10:1033. 3. Yang MB, <i>et al.</i> 2002. <i>Mol. Cell</i> 10:1045. 4. Flo TH, <i>et al.</i> 2004. <i>Nature</i> 432:917. 5. Tsigou E, <i>et al.</i> 2013. <i>Crit. Care Res. Pract.</i> 2013:361078. 6. Leung L, <i>et al.</i> 2012. <i>PLoS One</i> 7:e46677.
Gene ID	3934

Related Protocols

[Sandwich ELISA Protocol](#)

Product Data



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