

Recombinant Human NGAL (Lipocalin-2) (carrier-free)

Catalog# / Size	588102 / 10 µg 588104 / 25 µg 588106 / 100 µg 588108 / 500 µg
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.

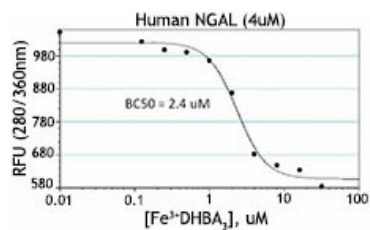
Product Details

Source	Human NGAL, amino acids (Gln21-Gly198) (Accession# NP_005555) was expressed with C-terminal His 10 tag in 293E cell line.
Molecular Mass	The 193 amino acid recombinant protein has a predicted molecular mass of approximately 22 kD. The DTT-reduced and non-reduced protein 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	0.22 µm filtered protein solution is in PBS.
Endotoxin Level	Less than 0.01 ng per µg cytokine as determine by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	EC ₅₀ ≥ 1.2 µM, by dose dependent binding of the protein with [Fe ³⁺ (DHBA) ₃] complex.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .

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	Angiogenesis, 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> 268:10426. 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

Product Data



Binding activity of hNGAL

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