Active Lactoferrin (LTF)

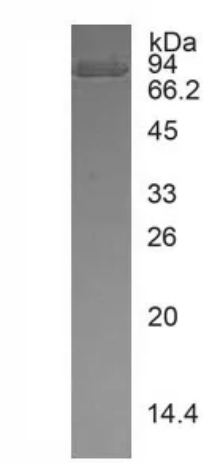
Catalog#:NP12491

概述（Summary）

别称（Alternative Names）	HLF2; LF; GIG12; Lactotransferrin; Growth-inhibiting protein 12; Talalactoferrin; Lfcin-H; Kaliocin-1
纯度（Purity）	Greater than 97% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
Accession #	P02788
表达宿主（Host）	Human
种属（Species）	Homo sapiens (Human)
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Transferrins are iron binding transport proteins which can bind two Fe(3+) ions in association with the binding of an anion, usually bicarbonate.; Major iron-binding and multifunctional protein found in exocrine fluids such as breast milk and mucosal secretions. Has antimicrobial activity, which depends on the extracellular cation concentration. Antimicrobial properties include bacteriostasis, which is related to its ability to sequester free iron and thus inhibit microbial growth, as well as direct bactericidal properties leading to the release of lipopolysaccharides from the bacterial outer membrane. Can also prevent bacterial biofilm development in P.aeruginosa infection. Has weak antifungal activity against C.albicans. Has anabolic, differentiating and anti-apoptotic effects on osteoblasts

and can also inhibit osteoclastogenesis, possibly playing a role in the regulation of bone growth. Promotes binding of species C adenoviruses to epithelial cells, promoting adenovirus infection. Can inhibit papillomavirus infections. Stimulates the TLR4 signaling pathway leading to NF-kappa-B activation and subsequent pro-inflammatory cytokine production while also interfering with the lipopolysaccharide (LPS)-stimulated TLR4 signaling. Inhibits neutrophil granulocyte migration to sites of apoptosis, when secreted by apoptotic cells. Stimulates VEGFA-mediated endothelial cell migration and proliferation. Binds heparin, chondroitin sulfate and possibly other glycosaminoglycans (GAGs). Also binds specifically to pneumococcal surface protein A (PspA), the lipid A portion of bacterial lipopolysaccharide (LPS), lysozyme and DNA.; Lactoferricin binds to the bacterial surface and is crucial for the bactericidal functions. Has some antiviral activity against papillomavirus infection. N-terminal region shows strong antifungal activity against C.albicans. Contains two BBXB heparin-binding consensus sequences that appear to form the predominate functional GAG-binding site.; Has antimicrobial activity and is able to permeabilize different ions through liposomal membranes.; Has opioid antagonist activity. Shows preference for mu-receptor.; Has opioid antagonist activity. Shows higher degrees of preference for kappa-receptors than for mu-receptors.; Has opioid antagonist activity. Shows higher degrees of preference for kappa-receptors than for mu-receptors.; The lactotransferrin transferrin-like domain 1 functions as a serine protease of the peptidase S60 family that cuts arginine rich regions. This function contributes to the antimicrobial activity. Shows a preferential cleavage at -Arg-Ser-Arg-Arg-|- and -Arg-Arg-Ser-Arg-|-, and of Z-Phe-Arg-|-aminomethylcoumarin sites.; transcription factor with antiproliferative properties and ability to induce cell cycle arrest. Binds to the DeltaLf response element found in the SKP1, BAX, DCPS, and SELENOH promoters.

电泳图（SDS-PAGE image）

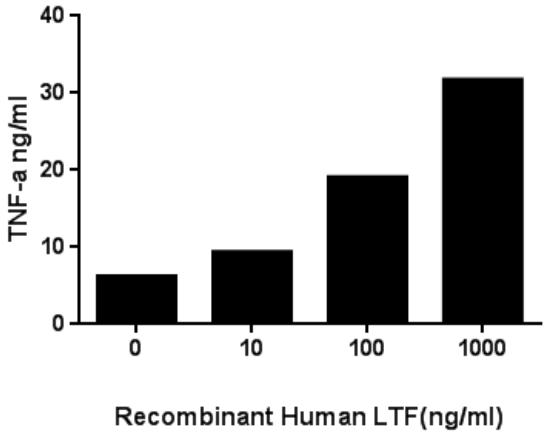


Greater than 97% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

Sample (cell supernatant of THP1 cells)	O.D. value	Corrected	Concentration of TNF-a (ng/mL)
Stimulated with rh LTF (1000ng/mL)	0.735	0.668	31.72
Stimulated with rh LTF (100ng/mL)	0.428	0.415	19.07
Stimulated with rh LTF (10ng/mL)	0.288	0.221	9.37
Unstimulated	0.225	0.158	6.22

Lactoferrin (LF), also known as lactotransferrin (LTF), is a multifunctional protein of the transferrin family. Lactoferrin is one of the components of the immune system of the body; it has antimicrobial activity (bacteriocide, fungicide) and is part of the innate defense, mainly at mucoses. In particular, lactoferrin provides antibacterial activity to human infants. Lactoferrin interacts with DNA and RNA, polysaccharides and heparin, and shows some of its biological functions in complexes with these ligands. LTF is known to activate immune cells to produce several cytokines, such as tumor necrosis factor TNF-a, thus, a stimulation assay was conducted to detect the activity of LTF using human monocytic cell line THP-1. Briefly, THP-1 cells were seeded into wells of 24-well plates at a density of 5×106 cells/mL in RPMI-1640 with the addition of various concentrations of recombinant human LTF. After incubation for 20 hours, the concentration of TNF-a in the cell supernatant was detected using an ELISA kit. TNF-a levels in the cell supernatant of spleen cells increased significantly after stimulated with LTF, the data was shown in table 1. Figure. TNF-a concentration in the cell supernatant of THP-1 cells up-regulated by LTF.



注意事项（Note）

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