

Active Lactoferrin (LTF) Instruction Manual

SBPA172Hu01

Homo sapiens (Human)

Buffer Formulation

PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.

Traits

Freeze-dried powder

Purity

> 97%

Isoelectric Point

n/a

Applications

Cell culture; Activity Assays.

ACTIVITY TEST

| 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 5×10^6 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.

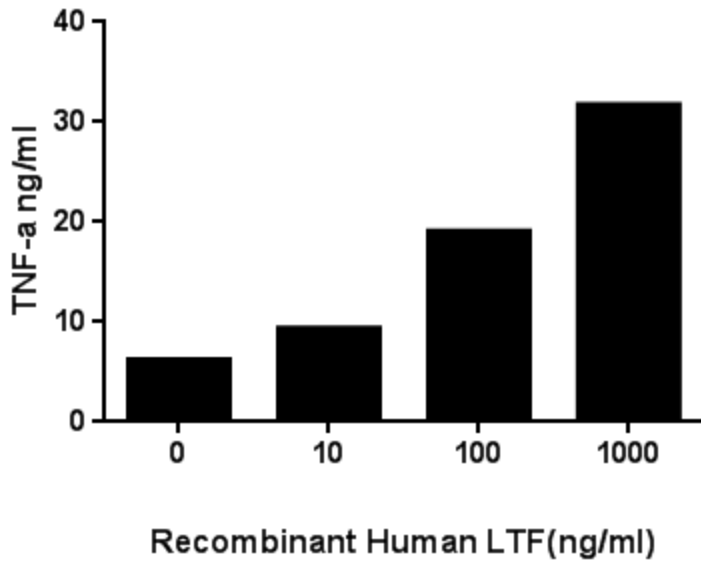


Figure. TNF-a concentration in the cell supernatant of THP-1 cells up-regulated by LTF.

USAGE

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

STORAGE

Avoid repeated freeze/thaw cycles. Store at 2-8°C for one month. Aliquot and store at -80°C for 12 months.

STABILITY

The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

Image

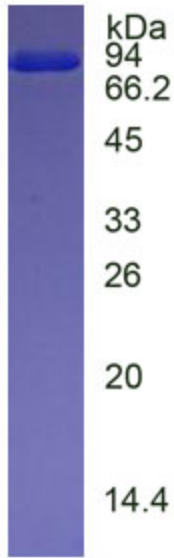


Figure. SDS-PAGE

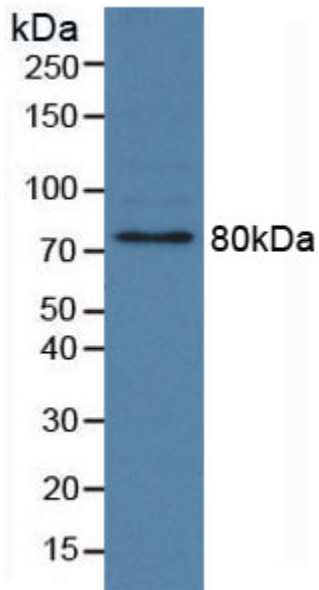


Figure. Western Blot

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.

