ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

**Bovine Lactoferrin Protein and antibodies**

| | | |
|---|---|---|
| □ **Cat.** LTF13-A | Goat anti-bovine lactoferrin IgG, aff pure | **SIZE**: 100 ug |
| □ **Cat.** LTF13-BTN | Goat anti-bovine lactoferrin IgG-Biotin Conjugate | **SIZE**: 0.5 ml |
| □ **Cat.** LTF13-HRP | Goat anti-bovine lactoferrin IgG-HRP Conjugate | **SIZE**: 0.5 ml |
| □ **Cat.** LTF13-C | Purified bovine lactoferrin protein control for WB | **SIZE**: 100 ul |

Lactoferrin (LF), also known as lactotransferrin (LTF), is a multifunctional protein of the transferrin family. Lactoferrin is a globular glycoprotein with a molecular mass of about 80 kDa that is widely represented in various secretory fluids, such as milk, saliva, tears, and nasal secretions. Lactoferrin is also present in secondary granules of PMN and is secreted by some acinar cells. Lactoferrin can be purified from milk or produced recombinantly. Human colostrum ("first milk") has the highest concentration, followed by human milk, then cow milk (150 ug/ml). 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.

Lactoferrin is one of the transferrin proteins that transfer iron to the cells and control the level of free iron in the blood and external secretions. It exists in two forms: iron-rich hololactoferrin and iron-free apolactoferrin. It exists in two forms: iron-rich hololactoferrin and iron-free apolactoferrin. Both in blood plasma and in secretory fluids lactoferrin can exist in different polymeric forms ranging from monomers to tetramers. Lactoferrin tends to polymerize both in vitro and in vivo, especially at high concentrations. Lactoferrin belongs to the innate immune system. Apart from its main biological function, namely binding and transport of iron ions, lactoferrin also has antibacterial, antiviral, antiparasitic, catalytic, anti-cancer, anti-allergic and radioprotecting functions and properties.

Mature human lactoferrin is 691 aa (~58 kda).

## Source of Antigen and Antibodies

| | |
|---|---|
| **Antigen** | Purified bovine lactoferrin |
| **Ab Host/type** | Goat, polyclonal IgG, aff pure, (**cat # LTF23-A**) in PBS, pH 7.5, 0.1% BSA and 0.05% azide |
| **2-ab** | **Rabbit Anti-goat IgG-HRP conjugate** Cat # 30220 (AP, biotin, FITC conjugates also available) |
| **-ve control IgG** | # 20011-1, Goat (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control |

Purified Bovine lactoferrin protein **for WB +ve control #LTF13-C** is formulated in SDS-PAGE sample buffer (reduced). This preparation is biologically inactive. It is not suitable for ELISA or other applications where native protein is required. It is supplied in 100 ul/vial. For WB, heat once and load 10 ul/lane and visualize with appropriate antibodies (cat # **LTF13**-A or other antibodies). This preparation is intended for qualitative purpose and not to serve as standard of known concentration. Store frozen in suitable aliquots. Do not freeze, thaw, or hear repeatedly.

## Form & Storage of Antibodies/Peptide Control

**Affinity pure IgG**

□ 100 ug/100ul □ solution □ lyophilized powder

Supplied in **Buffer**: PBS+0.1% BSA

**Reconstitute powder** in PBS at 1mg/ml

**Storage**

**Short-term**: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

**Long-term**: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability**: 6-12 months at –20oC or below.

**Shipping**: 4oC for solutions and room temp for powder

## Recommended Usage

**Western Blotting** (1-5 ug/ml for affinity pure IgG using ECL technique). ~40-42 Kda. PC3 cells of recombinant PTEN protein can be used as control. GST-PTEN ~82 Kda.

**ELISA**: Control antigen can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

**Cat# LTF13-BTN, Biotin-conjugate**

Purified antibody was coupled to Biotin using Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC**)** at F/P ratio ~10-20:1. The antibody is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide in either **lyophilized** or **liquid** form (0.5 ml). Reconstitute powder in PBS in 0.5 ml to prepare stock solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:5,000-1:30,000 ELISA, 1:2K-1:10K for western.

**Cat# LTF13-HRP, HRP-conjugate**

Purified antibody was coupled to HRP (RZ>3.0) using periodate method. The molar enzyme to protein (E/P) ratio = 4.0. The antibody is supplied in stabilizing buffer, 0.1% prolcin-300 as preservative in either **lyophilized** (0.5 ml) or **liquid** form ( 0.5 ml). Reconstitute powder in PBS in 0.5 ml. Store at 4oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:1,000-1:10,000 ELISA, 1:1K-1:5K for western, and 1:200-1:1000 (IHC).

## Specificity & Cross-reactivity

LTF23-A reacts with bovine lactoferrin. It may crossreact with lactoferrin from other species. Antibody crossreactivity in various species is not confirmed. Purified lactoferrin (cat # LTF13-C) can be used as +ve control for western.

**General References**: Rey MW (1990) Nucl. Acid. Res. 18, 5288; Baker EN (2005) Cell ,Mol. Life. Sci. 62, 2531-2539; Farnaud S (2003) Mol. Immunol. 40, 395-405;

*This product is for in vitro research use only.

## Related material available from ADI

| Catalog# | ProdDescription |
|---|---|
| 8090 | Bovine Lactoferrin ELISA Kit, 96 tests, Quantitative |
| LTF18-N-100 | Lactoferrin, Apo, Human milk (>98% pure) |
| LTF25-N-1 | Lactoferrin, Bovine milk (95%) |
| LTF26-N-1 | Lactoferrin Apo, Bovine milk (95%) |
| LTF13-A | 130815A |

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com
☎ (800) 786-5777; (210) 561-9515; **Fax**: (210) 561-9544; **Web Site**: www.4adi.com