

## PRODUCT DATASHEET

### Lactoferrin NATIVE, Human Breast Milk

**Cat. No.:** RD1663441000

**Type:** Native protein

**Size:** 1 mg

**Source:** Human breast milk

**Species:** Human

#### Description

Native protein isolated from Human Breast Milk, 691 AA, MW 76,165 kDa (calculated without glycosylation). Protein identity confirmed by LC-MS/MS (NCBI no. gi|119585171).

#### Other names

Lactotransferrin, Talactoferrin

#### Introduction to the molecule

"Lactoferrin (also called lactotransferrin) is a glycoprotein with a molecular weight of about 80 kDa, which was classified as a member of the transferrin family, due to its 60% sequence identity with serum transferrin. Higher levels of lactoferrin were found in colostrum and mature milk. Lactoferrin has been also found in most mucosal secretions such as uterine fluid, vaginal secretion, seminal fluid, saliva, bile, pancreatic juice, small intestine secretions, nasal secretion, and tears.

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."

#### Research topic

Animal studies, Bone and cartilage metabolism, Immune Response, Infection and Inflammation, Inflammatory bowel disease, Iron metabolism

#### Amino Acid sequence

GRRRSVQWCA VSQPEATKCF QWQRNMRKVR GPPVSCIKRD SPIQCIQAIA ENRADAVTLD GGFIYEAGLA PYKLRPVAAE VYGTERQPRT  
HYYAVAVVKK GGSFQLNELQ GLKSCHTGLR RTAGWNVPIG TLRPFLNWTG PPEPIEAAVA RFFSASCVPD ADKGQFPNLC RLCAGTGENK  
CAFSSQEPYF SYSGAFKCLR DGAGDVAFIR ESTVFEDLSD EAERDEYELL CPDNTRKPDV KFKDCHLARV PSHAVVARSV NGKEDAIWNL  
LRQAQEKFGK DKSPKFQLFG SPSGQKDLLF KDSAIGFSRV PPRIDSGLYL GSGYFTAIQN LRKSEEEVAA RRARVWCAV GEQELRKCNO  
WSGLSEGSVT CSSASTTEDC IALVLKGEAD AMSLDGGYVY TAGKCGLPV LAENYKSQSS SDPDPCVDR PVEGYLAVAV VRRSDTSLTW  
NSVKGKKSCH TAVDRTAGWN IPMGLLFNQT GSKCFDEYFS QSCAPGSDPR SNLCALCIGD EQGENKCVPN SNERYYYGTG AFRCLAENAG  
DVAFVKDVTV LQNTDGNNE AWAKDLKLD FALLCLDGKR KPVTEARSCH LAMAPNHAVV SRMDKVERLK QVLLHQQAKF GRNGSDCPDK  
FCLFQSETKN LLFNDNTECL ARLHGKTTYE KYLGPQYVAG ITNLKCCSTS PLLEACEFLR K

#### Purity

Purity as determined by densitometric image analysis: >95%

#### Endotoxin

< 0.1 EU/μg

#### Formulation:

Filtered (0.4 μm) and lyophilized from 1 mg/ml solution in phosphate buffered saline pH 7.4

### Reconstitution:

Add deionized water to prepare a working stock solution of approximately 1.0 mg/mL and let the lyophilized pellet dissolve completely. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.

### Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

### Storage, Stability/Shelf Life

Store the lyophilized protein at  $-80^{\circ}\text{C}$ . Lyophilized protein remains stable until the expiry date when stored at  $-80^{\circ}\text{C}$ . Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at  $-80^{\circ}\text{C}$  for long term storage. Reconstituted protein can be stored at  $4^{\circ}\text{C}$  for a week.

### Quality control

BCA to determine quantity of the protein.

LC-MS/MS to identify the protein and determine purity of the protein.

SDS PAGE to determine purity of the protein.

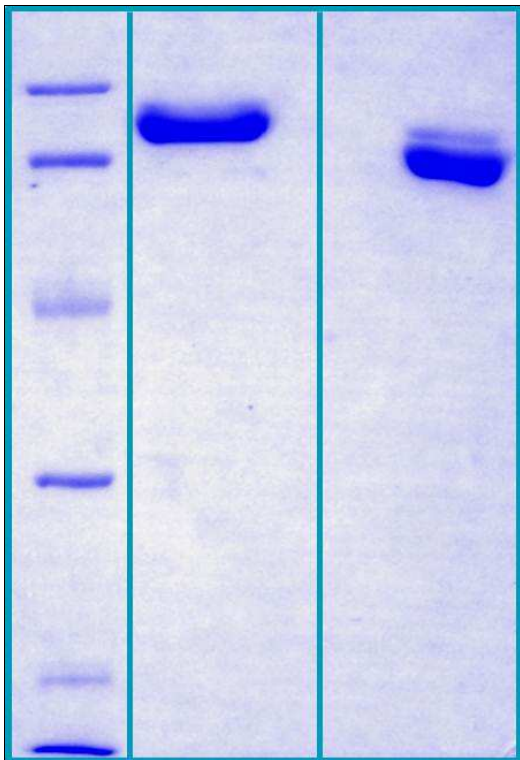
LAL to determine quantity of endotoxin.

### Applications

Cell culture and/or animal studies, ELISA, Immunological methods, Western blotting

### Note

This product is intended for research use only.



SDS-PAGE analysis of Lactoferrin NATIVE protein, 12% gel stained with Coomassie Brilliant Blue G250

1. M.W. marker – 14, 21, 31, 45, 66, 97 kDa
2. reduced and boiled sample, 2.5ug/lane
3. non-reduced and non-boiled sample, 2.5µg/lane