Lactoferrin NATIVE, Human Breast Milk

Product Data Sheet

Type: Native
Source: Human breast milk
Species: Human
Other names: Lactotransferrin, Talactoferrin

Cat. No.:
RD1663441000 (1 mg)

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).

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

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

Amino Acid Sequence

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GRRRSVQWCA VSQPEATKCF QWQRNMRKVR GPPVSCIKRD SPIQCIQAIA ENRADAVTLD GGFIYEAGLA PYKLRPVAAE
VYGTERQPRT HYYAVAVVKK GGSFQLNELQ GLKSCHTGLR RTAGWNVPIG TLRPFLNWTG PPEPIEAAVA RFFSASCVPG
ADKGQFPNLC RLCAGTGENK CAFSSQEPYF SYSGAFKCLR DGAGDVAFIR ESTVFEDLSD EAERDEYELL CPDNTRKPVD
KFKDCHLARV PSHAVVARSV NGKEDAIWNL LRQAQEKFGK DKSPKFQLFG SPSGQKDLLF KDSAIGFSRV PPRIDSGLYL
GSGYFTAIQN LRKSEEEVAA RRARVVWCAV GEQELRKCNQ WSGLSEGSVT CSSASTTEDC IALVLKGEAD AMSLDGGYVY
TAGKCGLVPV LAENYKSQQS SDPDPNCVDR PVEGYLAVAV VRRSDTSLTW NSVKGKKSCH TAVDRTAGWN IPMGLLFNQT
GSCKFDEYFS QSCAPGSDPR SNLCALCIGD EQGENKCVPN SNERYYGYTG AFRCLAENAG DVAFVKDVTV LQNTDGNNNE
AWAKDLKLAD FALLCLDGKR KPVTEARSCH LAMAPNHAVV SRMDKVERLK QVLLHQQAKF GRNGSDCPDK FCLFQSETKN
LLFNDNTECL ARLHGKTTYE KYLGPQYVAG ITNLKKCSTS PLLEACEFLR K
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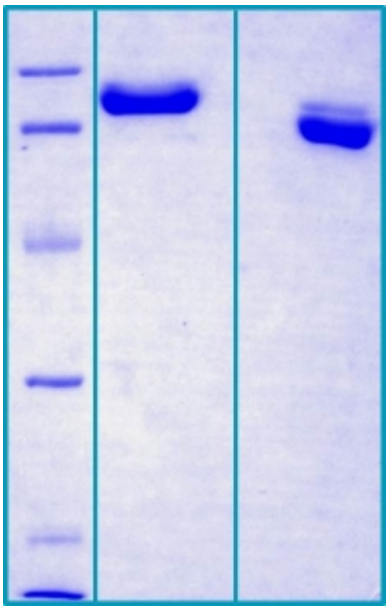
Source

Human breast milk

Purity

Purity as determined by densitometric image analysis: >95%

SDS-PAGE gel



SDS-PAGE analysis of Lactoferrin NATIVE protein,
12% gel stained with Coomassie Brillant 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

Endotoxin

< 1.0 EU/ug

Formulation

Filtered (0,4 µm) and lyophilized in 0.5 mg/mL in 0,05M phosphate buffer, 0,075M NaCl, pH 7,4.

Reconstitution

Add deionized water to prepare a working stock solution of approximately 0.5 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 lyophilized protein at -80°C. Lyophilized protein remains stable until the expiry date when stored at -80°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after one week at 4°C.

Quality Control Test

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.

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