

# lactoferrin (a-bC-lobe): sc-52694

## BACKGROUND

Ferritin and transferrins manage necessary iron-binding functions for iron metabolism. Transferrins comprise a class of single-chain, two-sited, metal-binding proteins expressed throughout the fluid and cells of vertebrates. The three major types of transferrin include serotransferrin, lactotransferrin (lactoferrin), and ovotransferrin. Lactoferrin is found in milk, tears, and leukocytes. Lactoferrin degrades an IgA1 protease secreted by *Haemophilus influenzae* and, consequently, allows the human IgA1 antibody to effectively abolish *H. influenzae* colonization. Lactoferrin also attenuates the pathogenic potential of *H. influenzae* by proteolytic degradation of the Hap adhesin. While lactoferrin may aid in the transmission of human T cell leukemia virus type 1, lactoferrin inhibits HIV-1 replication at the level of viral fusion and entry into cells. The inhibitory effects of lactoferrin on mixed lymphocyte reactions suggest that lactoferrin may have the ability to sense the activation status of lymphocytes. The gene encoding human lactoferrin maps to chromosome 3p21.31.

## REFERENCES

1. Aisen, P. and Listowsky, I. 1980. Iron transport and storage proteins. *Annu. Rev. Biochem.* 49: 357-393.
2. Chung, S., et al. 1986. A monoclonal antibody-based immunoassay for human lactoferrin. *J. Immunol. Meth.* 84: 135-141.
3. Teng, C.T., et al. 1987. Assignment of the lactotransferrin gene to human chromosome 3 and to mouse chromosome 9. *Somat. Cell. Molec. Genet.* 13: 689-693.
4. Zimecki, M., et al. 2001. Lactoferrin regulates proliferative response of human peripheral blood mononuclear cells to phytohemagglutinin and mixed lymphocyte reaction. *Arch. Immunol. Ther. Exp.* 49: 147-154.
5. Nibbering, P.H., et al. 2001. Human lactoferrin and peptides derived from its N terminus are highly effective against infections with antibiotic-resistant bacteria. *Infect. Immun.* 69: 1469-1476.
6. Moriuchi, M. and Moriuchi, H. 2001. A milk protein lactoferrin enhances human T cell leukemia virus type 1 and suppresses HIV-1 infection. *J. Immunol.* 166: 4231-4236.

## CHROMOSOMAL LOCATION

Genetic locus: LTF (human) mapping to 3p21.31.

## SOURCE

lactoferrin (a-bC-lobe) is a mouse monoclonal antibody raised against amino acids 467-473 of lactoferrin of bovine origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

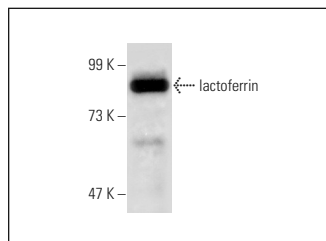
lactoferrin (a-bC-lobe) is recommended for detection of lactoferrin of human and bovine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for lactoferrin siRNA (h): sc-41371, lactoferrin siRNA (m): sc-41372, lactoferrin shRNA Plasmid (h): sc-41371-SH, lactoferrin shRNA Plasmid (m): sc-41372-SH, lactoferrin shRNA (h) Lentiviral Particles: sc-41371-V and lactoferrin shRNA (m) Lentiviral Particles: sc-41372-V.

Molecular Weight of lactoferrin: 78 kDa.

Positive Controls: human PBL whole cell lysate or HeLa whole cell lysate: sc-2200.

## DATA



lactoferrin (a-bC-lobe): sc-52694. Western blot analysis of lactoferrin expression in human PBL whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Soleilhavou, C., et al. 2014. Ram seminal plasma proteome and its impact on liquid preservation of spermatozoa. *J. Proteomics* 109: 245-260.
2. Soleilhavou, C., et al. 2016. Proteomes of the female genital tract during the oestrous cycle. *Mol. Cell. Proteomics* 15: 93-108.
3. Lee, W.Y., et al. 2017. Identification of lactoferrin and glutamate receptor-interacting protein 1 in bovine cervical mucus: a putative marker for oestrous detection. *Reprod. Domest. Anim.* 52: 16-23.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.