

lactoferrin (KT33): sc-101487

BACKGROUND

Ferritin and transferrins manage necessary iron-binding functions for iron metabolism. Transferrins comprise a class of single-chain, two-sided, 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. It degrades an IgA₁ protease secreted by *Haemophilus influenzae* and, consequently, allows the human IgA₁ antibody to effectively abolish *Haemophilus influenzae* colonization. Lactoferrin also attenuates the pathogenic potential of *Haemophilus influenzae* by proteolytic degradation of the Hap adhesin. While lactoferrin may aid in the transmission of human T cell leukemia virus type 1, it 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 it 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. 1985. A monoclonal antibody-based immunoassay for human lactoferrin. *J. Immunol. Methods* 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 Mol. Genet.* 13: 689-693.
4. 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.
5. 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.
6. 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.

CHROMOSOMAL LOCATION

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

SOURCE

lactoferrin (KT33) is a mouse monoclonal antibody raised against lactoferrin of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml 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

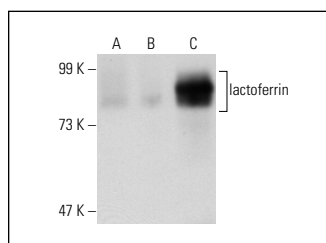
lactoferrin (KT33) is recommended for detection of lactoferrin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of lactoferrin: 78 kDa.

Positive Controls: lactoferrin (m): 293T Lysate: sc-121272, human PBL whole cell lysate or HeLa whole cell lysate: sc-2200.

DATA



lactoferrin (KT33): sc-101487. Western blot analysis of lactoferrin expression in non-transfected 293T: sc-117752 (A), mouse lactoferrin transfected 293T: sc-121272 (B) and human PBL (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Edman, M.C., et al. 2018. Increased cathepsin S activity associated with decreased protease inhibitory capacity contributes to altered tear proteins in Sjögren's syndrome patients. *Sci. Rep.* 8: 11044.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.