

# lactoferrin (B97): sc-53498

## 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 IgA<sub>1</sub> protease secreted by *Haemophilus influenzae* and, consequently, allows the human IgA<sub>1</sub> 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 3q21.31.

## CHROMOSOMAL LOCATION

Genetic locus: LTF (human) mapping to 3q21.31.

## SOURCE

lactoferrin (B97) is a mouse monoclonal antibody raised against full length purified lactoferrin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

lactoferrin (B97) is available conjugated to agarose (sc-53498 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53498 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53498 PE), fluorescein (sc-53498 FITC), Alexa Fluor<sup>®</sup> 488 (sc-53498 AF488), Alexa Fluor<sup>®</sup> 546 (sc-53498 AF546), Alexa Fluor<sup>®</sup> 594 (sc-53498 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-53498 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-53498 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-53498 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

lactoferrin (B97) 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10<sup>6</sup> cells) 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.

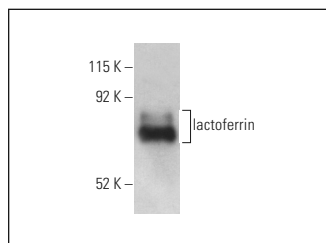
Molecular Weight of lactoferrin: 78 kDa.

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

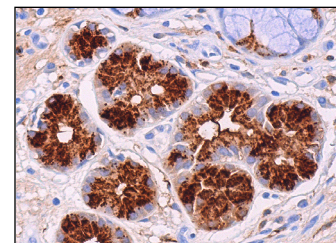
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



lactoferrin (B97) HRP: sc-53498 HRP. Direct western blot analysis of lactoferrin expression in human PBL tissue extract.



lactoferrin (B97): sc-53498. Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Miyauchi, S., et al. 2014. Increased plasma lactoferrin levels in leucocytopheresis therapy in patients with rheumatoid arthritis. *Rheumatology* 53: 1966-1972.
2. Xue, X., et al. 2017. Quantitative proteomics identifies STEAP4 as a critical regulator of mitochondrial dysfunction linking inflammation and colon cancer. *Proc. Natl. Acad. Sci. USA* 114: E9608-E9617.
3. Cutone, A., et al. 2020. Native and iron-saturated bovine lactoferrin differently hinder migration in a model of human glioblastoma by reverting epithelial-to-mesenchymal transition-like process and inhibiting interleukin-6/Stat3 axis. *Cell. Signal.* 65: 109461.
4. Tan, N., et al. 2020. Quantitative proteomic characterization of microvesicles/exosomes from the cerebrospinal fluid of patients with acute bilirubin encephalopathy. *Mol. Med. Rep.* 22: 1257-1268.

## STORAGE

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

## RESEARCH USE

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

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