SANTA CRUZ BIOTECHNOLOGY, INC.

# ZBP1 (K-14): sc-50687

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Left-handed Z-DNA is a higher energy form of the double helix. Proteins containing Zα domains share a remarkable ability to bind specifically to Z-DNA and/or Z-RNA. ZBP1 (Z-DNA binding protein 1), also designated DLM-1, is a 429 amino acid protein that harbors 2 copies of the Zα domain containing the Zα motif at its N-terminus. ZBP1 is involved in host responses against cellular stresses, including tumorigenesis and viral infection. It is highly expressed in lymphatic tissues including leukocytes, lymph node, tonsil, bone marrow, spleen and, to a lesser extent, in thymus, lung and liver. There are five known isoforms of human ZBP1. The ZBP1 protein shares 47% and 46% sequence identity with the mouse and rat homologs, respectively. The mouse, rat, and human ZBP1 proteins all contain four conserved regions, two of which are homologous to the Z-DNA binding domains Zα and Zβ of the RNA editing enzyme ADAR1.

## REFERENCES


1. Rich, A., Nordheim, A. and Wang, A.H. 1984. The chemistry and biology of left-handed Z-DNA. Annu. Rev. Biochem. 53: 791-846.
2. Schwartz, T., Rould, M.A., Lowenhaupt, K., Herbert, A. and Rich, A. 1999. Crystal structure of the Zα domain of the human editing enzyme ADAR1 bound to left-handed Z-DNA. Science 284: 1841-1845.
3. Fu, Y., Comella, N., Tognazzi, K., Brown, L.F., Dvorak, H.F. and Kocher, O. 2000. Cloning of DLM-1, a novel gene using RNA differential display. Gene 240: 157-163.
4. Rothenburg, S., Schwartz, T., Koch-Nolte, F. and Haag, F. 2002. Complex regulation of the human gene for the Z-DNA binding protein DLM-1. Nucleic Acids Res. 30: 993-1000.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606750. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/


## CHROMOSOMAL LOCATION

Genetic locus: Zbp1 (mouse) mapping to 2 H3.

## SOURCE

ZBP1 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ZBP1 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-50687 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

ZBP1 (K-14) is recommended for detection of ZBP1 of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ZBP1 siRNA (m): sc-61823, ZBP1 shRNA Plasmid (m): sc-61823-SH and ZBP1 shRNA (m) Lentiviral Particles: sc-61823-V.

Molecular Weight of ZBP1: 68 kDa.

Positive Controls: mouse liver extract: sc-2256 or rat liver extract: sc-2395.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS


1. Lech, M., Avila-Ferrufino, A., Skuginna, V., Susanti, H.E. and Anders, H.J. 2010. Quantitative expression of RIG-like helicase, NOD-like receptor and inflammasome-related mRNAs in humans and mice. Int. Immunol. 22: 717-728.


## RESEARCH USE

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

## PROTOCOLS

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