

ZBP1 (H-9): sc-271483

BACKGROUND

Left-handed Z-DNA is a higher energy form of the double helix. Proteins containing Z α 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 two copies of the Z α domain containing the Z α 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 Z α and Z β of the RNA editing enzyme ADAR1.

REFERENCES

- Rich, A., et al. 1984. The chemistry and biology of left-handed Z-DNA. *Annu. Rev. Biochem.* 53: 791-846.
- Schwartz, T., et al. 1999. Crystal structure of the Z α domain of the human editing enzyme ADAR1 bound to left-handed Z-DNA. *Science* 284: 1841-1845.
- Fu, Y., et al. 1999. Cloning of DLM-1, a novel gene that is up-regulated in activated macrophages, using RNA differential display. *Gene* 240: 157-163.

CHROMOSOMAL LOCATION

Genetic locus: ZBP1 (human) mapping to 20q13.31; Zbp1 (mouse) mapping to 2 H3.

SOURCE

ZBP1 (H-9) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of ZBP1 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-271483 X, 200 μ g/0.1 ml.

ZBP1 (H-9) is available conjugated to agarose (sc-271483 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271483 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271483 PE), fluorescein (sc-271483 FITC), Alexa Fluor[®] 488 (sc-271483 AF488), Alexa Fluor[®] 546 (sc-271483 AF546), Alexa Fluor[®] 594 (sc-271483 AF594) or Alexa Fluor[®] 647 (sc-271483 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271483 AF680) or Alexa Fluor[®] 790 (sc-271483 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

ZBP1 (H-9) is recommended for detection of ZBP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

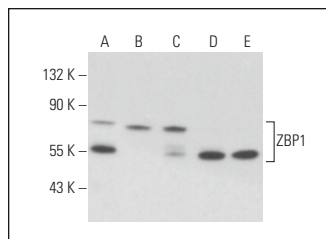
Suitable for use as control antibody for ZBP1 siRNA (h): sc-61822, ZBP1 siRNA (m): sc-61823, ZBP1 shRNA Plasmid (h): sc-61822-SH, ZBP1 shRNA Plasmid (m): sc-61823-SH, ZBP1 shRNA (h) Lentiviral Particles: sc-61822-V and ZBP1 shRNA (m) Lentiviral Particles: sc-61823-V.

ZBP1 (H-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

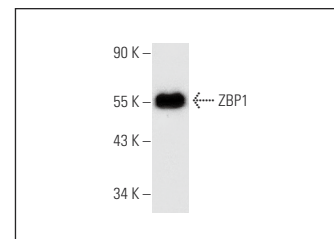
Molecular Weight of ZBP1: 46 kDa.

Positive Controls: EOC 20 whole cell lysate: sc-364187, M1 whole cell lysate: sc-364782 or J774.A1 cell lysate: sc-3802.

DATA



ZBP1 (H-9): sc-271483. Western blot analysis of ZBP1 expression in EOC 20 (A), U-698-M (B), J774.A1 (C), M1 (D) and RPE-J (E) whole cell lysates.



ZBP1 (H-9): sc-271483. Western blot analysis of ZBP1 expression in MCP-5 whole cell lysate.

SELECT PRODUCT CITATIONS

- Kim, E.T., et al. 2019. SAMHD1 modulates early steps during human cytomegalovirus infection by limiting NF κ B activation. *Cell Rep.* 28: 434-448.e6.
- Messaoud-Nacer, Y., et al. 2022. STING agonist diABZI induces PANoptosis and DNA mediated acute respiratory distress syndrome (ARDS). *Cell Death Dis.* 13: 269.
- Chen, Z., et al. 2023. Single-cell sequencing reveals homogeneity and heterogeneity of the cytopathological mechanisms in different etiology-induced AKI. *Cell Death Dis.* 14: 318.
- Bao, H., et al. 2024. PR-SET7 epigenetically restrains uterine interferon response and cell death governing proper postnatal stromal development. *Nat. Commun.* 15: 4920.
- Bi, X., et al. 2025. ZBP1-mediated PANoptosis is a crucial lethal form in diverse keratinocyte death modalities in UVB-induced skin injury. *Cell Death Dis.* 16: 44.

RESEARCH USE

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