SANTA CRUZ BIOTECHNOLOGY, INC.

Bob 1 (6F10): sc-23932

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

POU domain proteins contain a bipartite DNA-binding domain divided by a flexible linker that enables them to adopt various monomer configurations on DNA. The versatility of POU protein operation is additionally conferred at the dimerization level. The POU dimer from the OCT1 gene formed on the palindromic OCT factor recognition element, or PORE (ATTTGAAATGCAAAT), could recruit the transcriptional coactivator OBF1. Studies of tissue-specific expression of immunoglobulin promoters demonstrate the importance of an octamer, ATTTGCAT, and the proteins that bind to it. This is a regulatory element important for tissue- and cell-specific transcription as well as for transcription of a number of housekeeping genes. Oct-1 encodes one protein, NF-A1, which is found in nuclear extracts from all cell types and thus is not specific to lymphoid cells as is the protein NF-A2, which is encoded by Oct-2. A novel protein designated Bob 1 (B cell Oct binding protein 1), alternatively called OBF-1, specifically interacts with Oct-1 and Oct-2, enhancing their transcriptional efficacy. Bob 1 is expressed at highest levels in spleen and peripheral blood leukocytes and represents an Oct co-factor capable of conferring cell-specific activation of Oct-1 and Oct-2. Although having no intrinsic capacity for DNA binding, Bob 1 associates tightly with the octamer motif in the presence of Oct-1 and/or Oct-2. The gene which encodes Bob 1 maps to human chromosome 11q23.1.

CHROMOSOMAL LOCATION

Genetic locus: POU2AF1 (human) mapping to 11q23.1; Pou2af1 (mouse) mapping to 9 A5.3.

SOURCE

Bob 1 (6F10) is a rat monoclonal antibody raised against a GST-fusion protein containing the N-terminal 45 amino acids of Bob 1 of murine origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-23932 X, 200 µg/0.1 ml.

Bob 1 (6F10) is available conjugated to agarose (sc-23932 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-23932 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-23932 PE), fluorescein (sc-23932 FITC), Alexa Fluor® 488 (sc-23932 AF488), Alexa Fluor® 546 (sc-23932 AF546), Alexa Fluor® 594 (sc-23932 AF594) or Alexa Fluor® 647 (sc-23932 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-23932 AF680) or Alexa Fluor® 790 (sc-23932 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

Bob 1 (6F10) is recommended for detection of Bob 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 flow cytometry (1 µg per 1 x 10^6 cells).

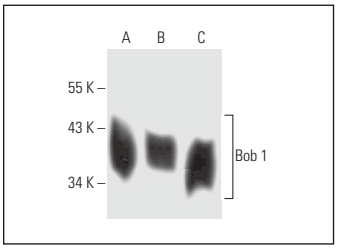
Suitable for use as control antibody for Bob 1 siRNA (h): sc-29818, Bob 1 siRNA (m): sc-29819, Bob 1 shRNA Plasmid (h): sc-29818-SH, Bob 1 shRNA Plasmid (m): sc-29819-SH, Bob 1 shRNA (h) Lentiviral Particles: sc-29818-V and Bob 1 shRNA (m) Lentiviral Particles: sc-29819-V.

Bob 1 (6F10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

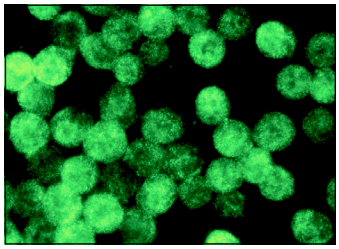
Molecular Weight of Bob 1: 35 kDa.

Positive Controls: Daudi cell lysate: sc-2415, MM-142 cell lysate: sc-2246 or Ramos cell lysate: sc-2216.

DATA



Bob 1 (6F10): sc-23932. Western blot analysis of Bob 1 expression in Ramos (**A**), Daudi (**B**) and MM-142 (**C**) whole cell lysates.



Bob 1 (6F10): sc-23932. Immunofluorescence staining of methanol-fixed MM-142 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Lindner, J.M., et al. 2013. A C-terminal acidic domain regulates degradation of the transcriptional coactivator Bob1. Mol. Cell. Biol. 33: 4628-4640.
2. Levels, M.J., et al. 2017. The transcriptional coactivator Bob 1 is associated with pathologic B cell responses in autoimmune tissue inflammation. Arthritis Rheumatol. 69: 750-762.
3. Levels, M.J., et al. 2019. Bob 1 controls memory B-cell fate in the germinal center reaction. J. Autoimmun. 101: 131-144.
4. Meng, J., et al. 2021. POU class 2 homeobox associating factor 1 (POU2AF1) participates in abdominal aortic aneurysm enlargement based on integrated bioinformatics analysis. Bioengineered 12: 8980-8993.
5. Yanagi, M., et al. 2024. Bob 1 maintains T follicular helper cells for long-term humoral immunity. Commun. Biol. 7: 185.

RESEARCH USE

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