

Bob 1 (6E4): sc-130918

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 (ATTGAAATGCAAAT), could recruit the transcriptional co-activator 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. OCT1 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 OCT2. 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 cofactor 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.

REFERENCES

1. Clerc, R.G., et al. 1988. The B-cell specific oct-2 protein contains POU box- and homeobox-type domains. *Genes Dev.* 2: 1570-1581.
2. Scheidereit, C., et al. 1988. A human lymphoid-specific transcription factor that activates immunoglobulin genes is a homeobox protein. *Nature* 336: 551-557.
3. Gstalger, M., et al. 1995. A B cell coactivator of octamer-binding transcription factors. *Nature* 373: 360-362.
4. Strubin, M., et al. 1995. OBF-1, a novel B cell-specific coactivator that stimulates immunoglobulin promoter activity through association with octamer-binding proteins. *Cell* 80: 497-506.
5. Junker, S., et al. 1996. Assignment of the human gene for Oct-binding factor-1 (OBF1), a B-cell-specific coactivator of octamer-binding transcription factors 1 and 2, to 11q23.1 by somatic cell hybridization and *in situ* hybridization. *Genomics* 33: 143-145.

CHROMOSOMAL LOCATION

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

SOURCE

Bob 1 (6E4) is a rat monoclonal antibody raised against a recombinant protein corresponding to the N-terminal 45 amino acids of Bob 1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

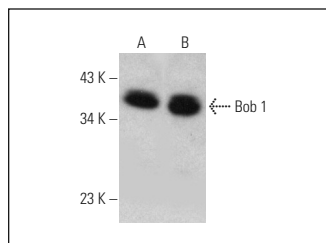
Bob 1 (6E4) is recommended for detection of Bob 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

Molecular Weight of Bob 1: 35 kDa.

Positive Controls: NAMALWA cell lysate: sc-2234, Ramos cell lysate: sc-2216 or Daudi cell lysate: sc-2415.

DATA



Bob 1 (6E4): sc-130918. Western blot analysis of Bob 1 expression in Ramos (A) and NAMALWA (B) whole cell lysates.

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.

PROTOCOLS

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