SANTA CRUZ BIOTECHNOLOGY, INC.

Bob 1 (h): 293T Lysate: sc-115196

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 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. 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 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., Corcoran, L.M., Lebowitz, J.H., Baltimore, D. and Sharp, P.A. 1988. The B cell specific Oct-2 protein contains POU box- and homeobox-type domains. Genes Dev. 2: 1570-1581.
2. Scheidereit, C., Cromlish, J.A., Gerster, T., Kawakami, K., Balmaceda, C., Currie, R.A. and Roeder, R.G. 1988. A human lymphoid-specific transcription factor that activates immunoglobulin genes is a homeobox protein. Nature 336: 551-557.
3. Strubin, M., Newell, J.W. and Matthias, P. 1995. OBF-1, a novel B cell-specific co-activator that stimulates immunoglobulin promoter activity through association with octamer-binding proteins. Cell 80: 497-506.
4. Gstalger, M., Knoepfel, L., Georgiev, O., Schaffner, W. and Hovens, C.M. 1995. A B cell co-activator of octamer-binding transcription factors. Nature 373: 360-362.
5. Junker, S., Brondum-Nielsen, K., Newell, J.W., Matthias, P. and Tommerup, N. 1996. Assignment of the human gene for Oct-binding factor-1 (OBF1), a B cell-specific co-activator of octamer-binding transcription factors 1 and 2, to 11q23.1 by somatic cell hybridization and *in situ* hybridization. Genomics 33: 143-145.
6. Tomilin, A., Remenyi, A., Lins, K., Bak, H., Leidel, S., Vriend, G., Wilmanns, M. and Scholer, H.R. 2000. Synergism with the co-activator OBF-1 (OCA-B, Bob 1) is mediated by a specific POU dimer configuration. Cell 103: 853-864.
7. LocusLink Report (LocusID: 164175). http://www.ncbi.nlm.nih.gov/LocusLink/

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: POU2AF1 (human) mapping to 11q23.1.

PRODUCT

Bob 1 (h): 293T Lysate represents a lysate of human Bob 1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

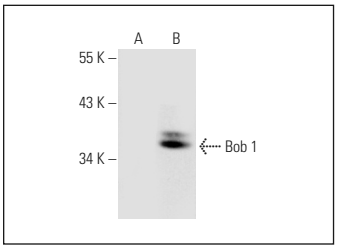
APPLICATIONS

Bob 1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Bob 1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Bob 1 (6F10): sc-23932 is recommended as a positive control antibody for Western Blot analysis of enhanced human Bob 1 expression in Bob 1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



Bob 1 (6F10): sc-23932. Western blot analysis of Bob 1 expression in non-transfected: sc-117752 (**A**) and human Bob 1 transfected: sc-115196 (**B**) 293T whole cell lysates.

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.