SANTA CRUZ BIOTECHNOLOGY, INC.

Oct-1 (12F11): sc-8024

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 Oct-1 gene formed on the palindromic Oct factor-recognition element (PORE), which is comprised of an inverted pair of homeodomain-binding sites separated by exactly five bp (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. The Oct-1 gene 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 the Oct-2 gene.

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. Sturm, R.A., et al. 1988. The ubiquitous octamer-binding protein Oct-1 contains a POU domain with a homeobox subdomain. Genes Dev. 2: 1582-1599.
3. Scheidereit, C., et al. 1988. A human lymphoid-specific transcription factor that activates immunoglobulin genes is a homeobox protein. Nature 336: 551-557.

CHROMOSOMAL LOCATION

Genetic locus: POU2F1 (human) mapping to 1q24.1; Pou2f1 (mouse) mapping to 1 H2.3.

SOURCE

Oct-1 (12F11) is a mouse monoclonal antibody raised against amino acids 462-760 mapping at the C-terminus of Oct-1 of *Xenopus* origin.

PRODUCT

Each vial contains 200 µg 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-8024 X, 200 µg/0.1 ml.

Oct-1 (12F11) is available conjugated to agarose (sc-8024 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8024 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8024 PE), fluorescein (sc-8024 FITC), Alexa Fluor® 488 (sc-8024 AF488), Alexa Fluor® 546 (sc-8024 AF546), Alexa Fluor® 594 (sc-8024 AF594) or Alexa Fluor® 647 (sc-8024 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8024 AF680) or Alexa Fluor® 790 (sc-8024 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

Oct-1 (12F11) is recommended for detection of Oct-1 of mouse, rat, human and *Xenopus laevis* 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

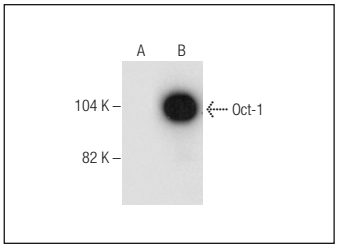
Suitable for use as control antibody for Oct-1 siRNA (h): sc-36119, Oct-1 siRNA (m): sc-36120, Oct-1 shRNA Plasmid (h): sc-36119-SH, Oct-1 shRNA Plasmid (m): sc-36120-SH, Oct-1 shRNA (h) Lentiviral Particles: sc-36119-V and Oct-1 shRNA (m) Lentiviral Particles: sc-36120-V.

Oct-1 (12F11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

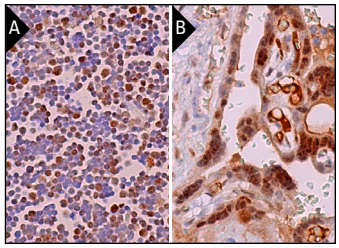
Molecular Weight of Oct-1: 95 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, Ramos cell lysate: sc-2216 or Oct-1 (m2): 293 Lysate: sc-179035.

DATA



Oct-1 (12F11): sc-8024. Western blot analysis of Oct-1 expression in non-transfected: sc-110760 (**A**) and mouse Oct-1 transfected: sc-179035 (**B**) 293 whole cell lysates.



Oct-1 (12F11): sc-8024. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fetal thymus tissue showing nuclear staining of subset of cortical cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear staining of trophoblastic cells (**B**).

SELECT PRODUCT CITATIONS

1. Lefort, K., et al. 2001. The specific activation of GADD 45 following UVB radiation requires the POU family gene product N-Oct-3 in human melanoma cells. Oncogene 20: 7375-7385.
2. Wang, Y., et al. 2018. Heat-shock protein 90α is involved in maintaining the stability of VP16 and VP16-mediated transactivation of α genes from herpes simplex virus-1. Mol. Med. 24: 65.
3. Fan, J., et al. 2019. CKIP-1 limits foam cell formation and inhibits atherosclerosis by promoting degradation of Oct-1 by REGγ. Nat. Commun. 10: 425.
4. Wang, Y., et al. 2020. Single-cell RNA-sequencing analysis identifies host long noncoding RNA MAMDC2-AS1 as a co-factor for HSV-1 nuclear transport. Int. J. Biol. Sci. 16: 1586-1603.

STORAGE

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