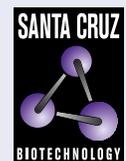


## Oct-3/4 (C-10): sc-5279



The Power to Question

## BACKGROUND

POU5F1 (POU domain, class 5, transcription factor 1), also known as octamer-binding transcription factor-3 (Oct-3, Otf-3), octamer-binding transcription factor-4 (Oct-4, Otf-4) and Oct-3/4, modulates embryonic stem (ES) cell populations by influencing lineage commitment. Oct-3/4 sustains stem-cell self-renewal and differentiation pathways. Transcription factors containing the POU homeodomain regulate tissue-specific gene expression in lymphoid and pituitary differentiation and in early mammalian development. Oct-3/4 is capable of inducing rapid proliferation and tumorigenic properties of ES cells through activation of the UTF1 gene. In humans, two Oct-3/4 isoforms contribute to influencing the undifferentiated phenotype of ES cells. Oct-3/4 pseudogenes localizing to human chromosomes 10 and 8 are reported to be transcribed in certain cancer cell lines and tissues.

## REFERENCES

1. Takeda, J., et al. 1992. Human Oct3 gene family: cDNA sequences, alternative splicing, gene organization, chromosomal location, and expression at low levels in adult tissues. *Nucleic Acids Res.* 20: 4613-4620.
2. Nichols, J., et al. 1998. Formation of pluripotent stem cells in the mammalian embryo depends on the POU transcription factor Oct-4. *Cell* 95: 379-391.

## CHROMOSOMAL LOCATION

Genetic locus: POU5F1 (human) mapping to 6p21.33; Pou5f1 (mouse) mapping to 17 B1.

## SOURCE

Oct-3/4 (C-10) is a mouse monoclonal antibody raised against amino acids 1-134 of Oct-3/4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> 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-5279 X, 200 µg/0.1 ml.

Oct-3/4 (C-10) is available conjugated to agarose (sc-5279 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5279 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5279 PE), fluorescein (sc-5279 FITC), Alexa Fluor® 488 (sc-5279 AF488), Alexa Fluor® 546 (sc-5279 AF546), Alexa Fluor® 594 (sc-5279 AF594) or Alexa Fluor® 647 (sc-5279 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5279 AF680) or Alexa Fluor® 790 (sc-5279 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Oct-3/4 (C-10) is available conjugated to biotin (sc-5279 B), 200 µg/ml, for WB, IHC(P) and ELISA.

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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

Oct-3/4 (C-10) is recommended for detection of Oct-3/4 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10<sup>6</sup> cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Oct-3/4 isoform B.

Suitable for use as control antibody for Oct-3/4 siRNA (h): sc-36123, Oct-3/4 siRNA (m): sc-36124, Oct-3/4 shRNA Plasmid (h): sc-36123-SH, Oct-3/4 shRNA Plasmid (m): sc-36124-SH, Oct-3/4 shRNA (h) Lentiviral Particles: sc-36123-V and Oct-3/4 shRNA (m) Lentiviral Particles: sc-36124-V.

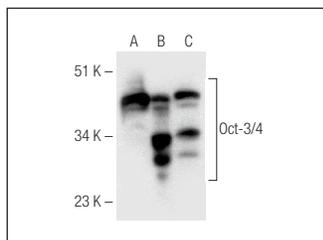
Oct-3/4 (C-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Oct-3/4A isoform: 52 kDa.

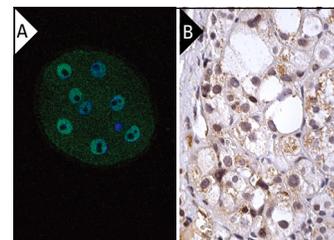
Molecular Weight of Oct-3/4B isoform: 45 kDa.

Positive Controls: F9 cell lysate: sc-2245, NTERA-2 cl.D1 whole cell lysate: sc-364181 or ES-D3 whole cell lysate: sc-364776.

## DATA



Oct-3/4 (C-10): sc-5279. Western blot analysis of Oct-3/4 expression in F9 (A), ES-D3 (B) and NTERA-2 cl.D1 (C) whole cell lysates.



Oct-3/4 (C-10): sc-5279. Immunofluorescence staining of paraformaldehyde fixed multicell mouse embryo showing nuclear localization. Kindly provided by Dr. Kira Fogel, Stanford University (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing nuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

1. Drocourt, L., et al. 2002. Expression of CYP3A4, CYP2B6, and CYP2C9 is regulated by the vitamin D receptor pathway in primary human hepatocytes. *J. Biol. Chem.* 277: 25125-25132.
2. Singla, S., et al. 2020. Autophagy-mediated apoptosis eliminates aneuploid cells in a mouse model of chromosome mosaicism. *Nat. Commun.* 11: 2958.
3. Romano, R., et al. 2021. Alteration of the late endocytic pathway in Charcot-Marie-Tooth type 2B disease. *Cell. Mol. Life Sci.* 78: 351-372.

## RESEARCH USE

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