

# Oct-3/4 (H-134): sc-9081

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Oct-3/4 (H-134) is a rabbit polyclonal antibody raised against amino acids 1-134 mapping at the N-terminus of Oct-3/4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-9081 X, 200 µg/0.1 ml.

## APPLICATIONS

Oct-3/4 (H-134) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Oct-3/4 isoform B.

Oct-3/4 (H-134) is also recommended for detection of Oct-3/4 in additional species, including equine and porcine.

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 (H-134) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

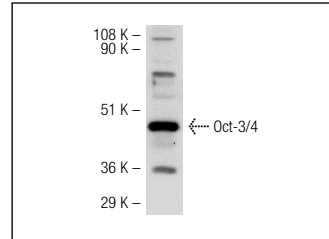
Molecular Weight of Oct-3/4B isoform: 45 kDa.

Positive Controls: F9 cell lysate: sc-2245 or mouse kidney extract: sc-2255.

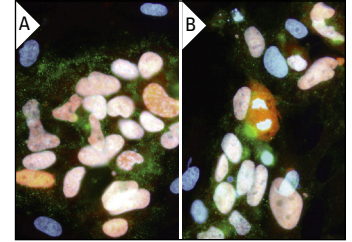
## STORAGE

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

## DATA



Oct-3/4 (H-134): sc-9081. Western blot analysis of Oct-3/4 expression in F9 whole cell lysate.



Oct-3/4 (H-134): sc-9081. Immunofluorescence staining of formalin-fixed human embryonic stem cells showing nuclear staining of Oct-3/4 (pink), cytoplasmic staining of L-Alkaline phosphatase (green) and blue counterstain (A,B). Antibodies tested include Oct-3/4 (H-134): sc-9081 and L-Alkaline phosphatase (TRA-2-39): sc-21708. Kindly provided by Dr. Nick Strelchenko at Reproductive Genetics Institute, Chicago.

## SELECT PRODUCT CITATIONS

- Ezashi, T., et al. 2001. Repression of Ets-2-induced transactivation of the tau interferon promoter by Oct-4. *Mol. Cell. Biol.* 21: 7883-7891.
- Ding, L.J., et al. 2011. FSH acts on the proliferation of type A spermatogonia via Nur77 that increases GDNF expression in the Sertoli cells. *FEBS Lett.* 585: 2437-2444.
- Berg, D.K., et al. 2011. Trophoblast lineage determination in cattle. *Dev. Cell* 20: 244-255.
- Varela, E., et al. 2011. Different telomere-length dynamics at the inner cell mass versus established embryonic stem (ES) cells. *Proc. Natl. Acad. Sci. USA* 108: 15207-15212.
- Marión, R.M., et al. 2011. Suv4-20h abrogation enhances telomere elongation during reprogramming and confers a higher tumorigenic potential to iPS cells. *PLoS ONE* 6: e25680.
- Jung, J.E., et al. 2012. Sprouty1 regulates neural and endothelial differentiation of mouse embryonic stem cells. *Stem Cells Dev.* 21: 554-561.
- Teets, B.W., et al. 2012. Role of SF-1 and DAX-1 during differentiation of P19 cells by retinoic acid. *J. Cell. Physiol.* 227: 1501-1511.

## RESEARCH USE

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



Try **Oct-3/4 (C-10): sc-5279** or **Oct-3/4 (F-7): sc-514295**, our highly recommended monoclonal alternatives to Oct-3/4 (H-134). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Oct-3/4 (C-10): sc-5279**.