

# POU3F4 (H-62): sc-292121

## BACKGROUND

The Brn family of transcription factors are found in a highly restricted subset of neurons and are critical to the early embryonic development of the central nervous system. POU3F4 (POU domain, class 3, transcription factor 4), also known as OTF9, DFN3, DFNX2, BRAIN-4 or Brn-4, is a 361 amino acid class III POU domain protein that belongs to the Brn family. Localized to the nucleus, POU3F4 contains one POU-specific domain and one homeobox DNA-binding domain through which it is thought to function as a brain-specific transcription factor that effects neuronal development. Defects in the gene encoding POU3F4 are associated with X-linked deafness type 3 (DFN3), a disorder characterized by both progressive sensorineural deafness and conductive hearing loss caused by stapes gushers (large vestibular aqueducts).

## REFERENCES

1. Malik, K.F., et al. 1997. The class III POU factor Brn-4 interacts with other class III POU factors and the heterogeneous nuclear ribonucleoprotein U. *Brain Res. Mol. Brain Res.* 45: 99-107.
2. de Kok, Y.J., et al. 1997. The molecular basis of X-linked deafness type 3 (DFN3) in two sporadic cases: identification of a somatic mosaicism for a POU3F4 missense mutation. *Hum. Mutat.* 10: 207-211.
3. Phippard, D., et al. 1998. Changes in the subcellular localization of the Brn4 gene product precede mesenchymal remodeling of the otic capsule. *Hear. Res.* 120: 77-85.
4. Hagiwara, H., et al. 1998. A new mutation in the POU3F4 gene in a Japanese family with X-linked mixed deafness (DFN3). *Laryngoscope* 108: 1544-1547.
5. Shimazaki, T., et al. 1999. A role for the POU-III transcription factor Brn-4 in the regulation of striatal neuron precursor differentiation. *EMBO J.* 18: 444-456.
6. Xia, A.P., et al. 2002. Late-onset hearing loss in a mouse model of DFN3 non-syndromic deafness: morphologic and immunohistochemical analyses. *Hear. Res.* 166: 150-158.

## CHROMOSOMAL LOCATION

Genetic locus: POU3F4 (human) mapping to Xq21.1; Pou3f4 (mouse) mapping to X E1.

## SOURCE

POU3F4 (H-62) is a rabbit polyclonal antibody raised against amino acids 75-136 mapping within an internal region of POU3F4 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-292121 X, 200 µg/0.1 ml.

## RESEARCH USE

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

## APPLICATIONS

POU3F4 (H-62) is recommended for detection of POU3F4 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).

POU3F4 (H-62) is also recommended for detection of POU3F4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for POU3F4 siRNA (h): sc-76201, POU3F4 siRNA (m): sc-76202, POU3F4 shRNA Plasmid (h): sc-76201-SH, POU3F4 shRNA Plasmid (m): sc-76202-SH, POU3F4 shRNA (h) Lentiviral Particles: sc-76201-V and POU3F4 shRNA (m) Lentiviral Particles: sc-76202-V.

POU3F4 (H-62) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of POU3F4: 39 kDa.

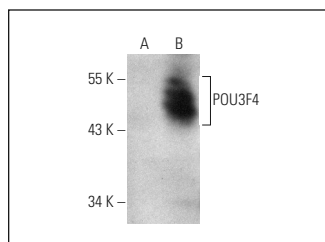
Molecular Weight (observed) of POU3F4: 42 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or human POU3F4 transfected CHO whole cell lysate.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



POU3F4 (H-62): sc-292121. Western blot analysis of POU3F4 expression in non-transfected CHO (A) and human POU3F4 transfected CHO (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.