

# Brn-5 (S-19): sc-79882

## BACKGROUND

The Brn family of transcription factors are found in a highly restricted subset of neurons and are critical in the early embryonic development of the central nervous system. Brn-1 and Brn-2 are class III POU (Pit-Oct-Unc) domain proteins, Brn-3 is a class IV POU domain protein and Brn-5 is a class VI POU domain protein. Brn-5 (brain-5), also known as POU6F1, MPOU or TCFB1, is a widely expressed protein, but during embryogenesis is exclusively found in the developing brain and spinal cord. As is characteristic of Brn family members, Brn-5 contains two DNA-binding domains, namely the POU-specific domain and the POU homeodomain, which each contain an HTH (helix-turn-helix) motif. Brn-5 binds to CRH (corticotrophin-releasing hormone) elements with high affinity and is capable of both enhancing Prolactin gene expression and activating Pit-1 expression.

## REFERENCES

- Andersen, B., et al. 1993. Brn-5 is a divergent POU domain factor highly expressed in layer IV of the neocortex. *J. Biol. Chem.* 268: 23390-23398.
- Gruber, C.A., et al. 1997. POU domain factors of the Brn-3 class recognize functional DNA elements which are distinctive, symmetrical, and highly conserved in evolution. *Mol. Cell. Biol.* 17: 2391-2400.
- Rhee, J.M., et al. 1998. Highly cooperative homodimerization is a conserved property of neural POU proteins. *J. Biol. Chem.* 273: 34196-34205.
- Cui, H. and Bulleit, R.F. 1998. Expression of the POU transcription factor Brn-5 is an early event in the terminal differentiation of CNS neurons. *J. Neurosci. Res.* 52: 625-632.
- Donahue, L.M. and Reinhart, A.J. 1998. POU domain genes are differentially expressed in the early stages after lineage commitment of the PNS-derived stem cell line, RT4-AC. *Brain Res. Dev. Brain Res.* 106: 1-12.
- Cui, H. and Bulleit, R.F. 1998. Potassium chloride inhibits proliferation of cerebellar granule neuron progenitors. *Brain Res. Dev. Brain Res.* 106: 129-135.
- Wu, R., et al. 2001. The POU gene Brn-5 is induced by neuregulin and is restricted to myelinating Schwann cells. *Mol. Cell. Neurosci.* 17: 683-695.

## CHROMOSOMAL LOCATION

Genetic locus: POU6F1 (human) mapping to 12q13.13; Pou6f1 (mouse) mapping to 15 F1.

## SOURCE

Brn-5 (S-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Brn-5 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.

Blocking peptide available for competition studies, sc-79882 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-79882 X, 200 µg/0.1 ml.

## APPLICATIONS

Brn-5 (S-19) is recommended for detection of Brn-5 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).

Brn-5 (S-19) is also recommended for detection of Brn-5 in additional species, including equine and canine.

Suitable for use as control antibody for Brn-5 siRNA (h): sc-72664, Brn-5 siRNA (m): sc-72665, Brn-5 shRNA Plasmid (h): sc-72664-SH, Brn-5 shRNA Plasmid (m): sc-72665-SH, Brn-5 shRNA (h) Lentiviral Particles: sc-72664-V and Brn-5 shRNA (m) Lentiviral Particles: sc-72665-V.

Brn-5 (S-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

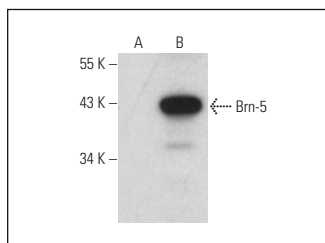
Molecular Weight of Brn-5: 33 kDa.

Positive Controls: Brn-5 (h): 293T Lysate: sc-370001.

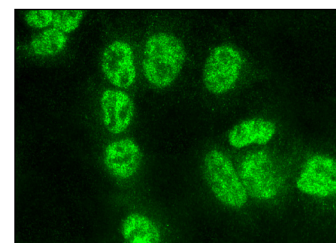
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Brn-5 (S-19): sc-79882. Western blot analysis of Brn-5 expression in non-transfected: sc-117752 (A) and human Brn-5 transfected: sc-370001 (B) 293T whole cell lysates.



Brn-5 (S-19): sc-79882. Immunofluorescence staining of formalin-fixed HepG2 cells showing nuclear localization.

## STORAGE

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

## RESEARCH USE

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