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POU3F2 Antibody

Catalog # ASC11568

Product Information

Application	WB, IF, E
Primary Accession	P20265
Other Accession	NP_005595, 51702521
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	46893
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	POU3F2 antibody can be used for detection of POU3F2 by Western blot at 1 - 2 □g/mL. For immunofluorescence start at 20 □g/mL.

Additional Information

Gene ID	5454
Other Names	POU domain, class 3, transcription factor 2, Brain-specific homeobox/POU domain protein 2, Brain-2, Brn-2, Nervous system-specific octamer-binding transcription factor N-Oct-3, Octamer-binding protein 7, Oct-7, Octamer-binding transcription factor 7, OTF-7, POU3F2, BRN2, OCT7, OTF7
Target/Specificity	POU3F2; At least two isoforms are known to exist. This antibody will recognize both isoforms. POU3F2 antibody is predicted to not cross-react with other members of the POU domain class 3 family.
Reconstitution & Storage	POU3F2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	POU3F2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	POU3F2
Synonyms	BRN2, OCT7, OTF7
Function	Transcription factor that plays a key role in neuronal differentiation (By similarity). Binds preferentially to the recognition sequence which consists of two distinct half-sites, ('GCAT') and ('TAAT'), separated by a non-conserved spacer region of 0, 2, or 3 nucleotides (By similarity). Acts as a transcriptional

activator when binding cooperatively with SOX4, SOX11, or SOX12 to gene promoters (By similarity). The combination of three transcription factors, ASCL1, POU3F2/BRN2 and MYT1L, is sufficient to reprogram fibroblasts and other somatic cells into induced neuronal (iN) cells in vitro (By similarity). Acts downstream of ASCL1, accessing chromatin that has been opened by ASCL1, and promotes transcription of neuronal genes (By similarity).

Cellular Location Nucleus.

Tissue Location Expressed specifically in the neuroectodermal cell lineage

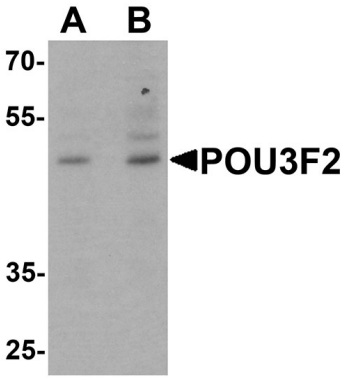
Background

POU3F2 Antibody: POU3F2, also commonly known as brain-2, is a member of a family of POU domain genes expressed in mouse brain and is thought to be involved in the development of the neocortex and establishment of neural cell lineage. Recent studies suggest that POU3F2 may be involved with the development of neurodegenerative diseases as well as tumor development and proliferation. Along with the neural-lineage-specific transcription factors ASCL1 and MYT1L, POU3F2 can convert fibroblasts to functional neurons in vitro, a form of artificial stem cells termed induced neuronal (iN) cells, suggesting that these cells may be useful in the treatment of neurodegenerative diseases.

References

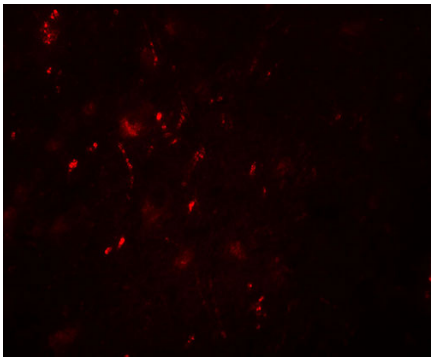
Hara Y, Rovescalli AC, Kim Y, et al. Structure and evolution of four POU domain genes expressed in mouse brain. Proc. Natl. Acad. Sci. USA 1992; 89:3280-4.
McEvilly RJ, de Diaz MO, Schonemann MD, et al. Transcriptional regulation of cortical neuron migration by POU domain factors. Science 2002; 295:1528-32.
Huang YT, Iwamoto K, Kurosaki T, et al. The neuronal POU transcription factor Brn-2 interacts with Jab1, a gene involved in the onset of neurodegenerative diseases. Neurosci. Lett. 2005; 382:175-8
Goodall J, Carreira S, Denat L, et al. Brn-2 represses microphthalmia-associated transcription factor expression and marks a distinct subpopulation of microphthalmia-associated transcription factor-negative melanoma cells. Cancer Res. 2008; 68:7788-94

Images



Western blot analysis of POU3F2 in 3T3 cell lysate with POU3F2 antibody at (A) 1 and (B) 2 µg/mL.

Immunofluorescence of POU3F2 in human brain tissue with POU3F2 antibody at 20 µg/mL.



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