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BF-1 (D-12): sc-518188

BACKGROUND

The winged-helix transcriptional repressor (WH) BF-1 gene encodes brain factor 1 (BF-1), also known as *foxg1*, and is essential for the proliferation of progenitor cells in the cerebral cortex and influences regional patterning in the mammalian telencephalon. WH proteins are a family of putative transcriptional regulators with diverse roles in development, and are characterized by a highly conserved DNA binding structure, the WH domain. BF-1 plays a critical role in the development of the cerebral hemispheres of the brain and targeted disruption of the gene leads to severe defects in the development of telencephalic structures, such as the cerebral cortex and basal ganglia. The loss of BF-1 results in an accelerated rate of neuronal differentiation and the shortening of the neurogenetic period in the embryonic cerebral cortex. BF-1 is expressed by E8.5 in telencephalic progenitors. It may also regulate the response of cerebral cortical progenitors to environmental cues.

REFERENCES

1. Shimamura, K., et al. 1995. Longitudinal organization of the anterior neural plate and neural tube. *Development* 121: 3923-3933.
2. Xuan, S., et al. 1995. Winged helix transcription factor BF-1 is essential for the development of the cerebral hemispheres. *Neuron* 14: 1141-1152.
3. Kaufmann, E. and Knochel, W. 1996. Five years on the wings of fork head. *Mech. Dev.* 57: 3-20.
4. Hatini, V., et al. 1999. Dynamics of placodal lineage development revealed by targeted transgene expression. *Dev. Dyn.* 215: 332-343.
5. Dou, C., et al. 2000. BF-1 interferes with transforming growth factor β signaling by associating with Smad partners. *Mol. Cell. Biol.* 20: 6201-6211.
6. Kaestner, K., et al. 2000. Unified nomenclature for the winged helix/fork-head transcription factors. *Genes Dev.* 14: 142-146.

CHROMOSOMAL LOCATION

Genetic locus: FOXP1 (human) mapping to 14q12; *Foxg1* (mouse) mapping to 12 B3.

SOURCE

BF-1 (D-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 268-294 of BF-1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BF-1 (D-12) is available conjugated to agarose (sc-518188 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518188 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518188 PE), fluorescein (sc-518188 FITC), Alexa Fluor[®] 488 (sc-518188 AF488), Alexa Fluor[®] 546 (sc-518188 AF546), Alexa Fluor[®] 594 (sc-518188 AF594) or Alexa Fluor[®] 647 (sc-518188 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-518188 AF680) or Alexa Fluor[®] 790 (sc-518188 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

BF-1 (D-12) is recommended for detection of BF-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for BF-1 siRNA (h): sc-43631, BF-1 siRNA (m): sc-141691, BF-1 shRNA Plasmid (h): sc-43631-SH, BF-1 shRNA Plasmid (m): sc-141691-SH, BF-1 shRNA (h) Lentiviral Particles: sc-43631-V and BF-1 shRNA (m) Lentiviral Particles: sc-141691-V.

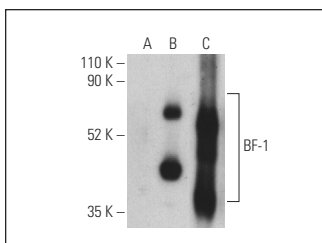
Molecular Weight of BF-1: 51 kDa.

Positive Controls: BF-1 (m): 293T Lysate: sc-118802.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



BF-1 (D-12): sc-518188. Western blot analysis of BF-1 expression in non-transfected: sc-117752 (A) and mouse BF-1 transfected: sc-118802 (B) whole cell lysates and in human recombinant BF-1 fusion protein (C). Detection reagent used: m-IgG₁ BP-HRP: sc-525408.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.