

NPAS1 (F-4): sc-376083

BACKGROUND

Members of the bHLH-PAS family are transcription factors that contain a basic helix-loop-helix (bHLH) DNA-recognition motif which is located N-terminal to a PAS domain comprised of two imperfect direct repeats. Human NPAS1 (neuronal PAS domain protein 1) is a deduced 590 amino acid protein which shares 86% sequence homology with mouse Npas1. In order for NPAS1 to bind DNA efficiently, it must form a dimer with another bHLH protein. NPAS1 interacts with ARNT (aryl hydrocarbon receptor nuclear translocator), and shows predominant expression in brain tissue. NPAS1 is also implicated in the control of regulatory pathways relevant to schizophrenia and to psychotic illness, and may play a role in late central nervous system development by modulating EPO expression in response to cellular oxygen levels. The NPAS1 gene maps to human chromosome 19q13.32.

REFERENCES

- Hogenesch, J.B., et al. 1997. Characterization of a subset of the basic-helix-loop-helix-PAS superfamily that interacts with components of the dioxin signaling pathway. *J. Biol. Chem.* 272: 8581-8593.
- Zhou, Y.D., et al. 1997. Molecular characterization of two mammalian bHLH-PAS domain proteins selectively expressed in the central nervous system. *Proc. Natl. Acad. Sci. USA* 94: 713-718.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 126110. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Erbel-Sieler, C., et al. 2004. Behavioral and regulatory abnormalities in mice deficient in the NPAS1 and NPAS3 transcription factors. *Proc. Natl. Acad. Sci. USA* 101: 13648-13653.
- Ohsawa, S., et al. 2005. Novel function of neuronal PAS domain protein 1 in erythropoietin expression in neuronal cells. *J. Neurosci. Res.* 79: 451-458.

CHROMOSOMAL LOCATION

Genetic locus: NPAS1 (human) mapping to 19q13.32; Npas1 (mouse) mapping to 7 A2.

SOURCE

NPAS1 (F-4) is a mouse monoclonal antibody raised against amino acids 371-590 mapping at the C-terminus of NPAS1 of human origin.

PRODUCT

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

NPAS1 (F-4) is available conjugated to agarose (sc-376083 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376083 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376083 PE), fluorescein (sc-376083 FITC), Alexa Fluor® 488 (sc-376083 AF488), Alexa Fluor® 546 (sc-376083 AF546), Alexa Fluor® 594 (sc-376083 AF594) or Alexa Fluor® 647 (sc-376083 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376083 AF680) or Alexa Fluor® 790 (sc-376083 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NPAS1 (F-4) is recommended for detection of NPAS1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for NPAS1 siRNA (h): sc-61221, NPAS1 siRNA (m): sc-61222, NPAS1 shRNA Plasmid (h): sc-61221-SH, NPAS1 shRNA Plasmid (m): sc-61222-SH, NPAS1 shRNA (h) Lentiviral Particles: sc-61221-V and NPAS1 shRNA (m) Lentiviral Particles: sc-61222-V.

Molecular Weight (predicted) of NPAS1: 64 kDa.

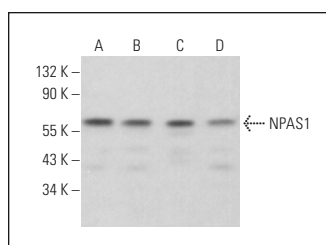
Molecular Weight (observed) of NPAS1: 76 kDa.

Positive Controls: A-10 cell lysate: sc-3806, C6 whole cell lysate: sc-364373 or EOC 20 whole cell lysate: sc-364187.

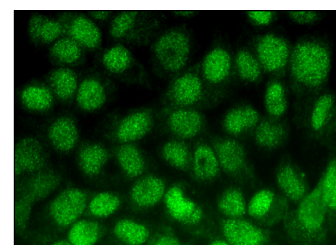
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



NPAS1 (F-4): sc-376083. Western blot analysis of NPAS1 expression in A-10 (A), C6 (B), EOC 20 (C) and PC-12 (D) whole cell lysates.



NPAS1 (F-4): sc-376083. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and nucleolar 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.

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