SANTA CRUZ BIOTECHNOLOGY, INC.

# NPAS2 (FT-68): sc-134404

## BACKGROUND

Members of the basic helix-loop-helix-PER-ARNT-SIM (bHLH-PAS) family are transcription factors that contain a bHLH DNA binding domain located amino-terminal to a PAS domain. Neuronal PAS domain protein 2 (NPAS2, also designated PAS 4/MOP4) is a member of the bHLH-PAS family and the PAS superfamily. NPAS2, which maps to chromosome 2p11.2, is expressed primarily in the neurons during the first week of postnatal development. The pattern of NPAS2 expression temporally matches the development of learning and memory, and spatially matches the frontal association/limbic forebrain pathway. NPAS2 may serve a regulatory role in the development and maintenance of long-term memory, and may be required for the processing of complex sensory information. NPAS2 and MOP3 form a transcriptionally active heterodimer which binds to a CACGTGA-containing DNA element and drives transcription from a linked luciferase reporter gene.

## REFERENCES


1. 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.
2. 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.
3. Hogenesch, J.B., et al. 1998. The basic-helix-loop-helix-PAS orphan MOP3 forms trans-criptionally active complexes with circadian and hypoxia factors. Proc. Natl. Acad. Sci. USA 95: 5474-5479.
4. Garcia, J.A., et al. 2000. Impaired cued and contextual memory in NPAS2-deficient mice. Science 288: 2226-2230.
5. Chong, N.W., et al. 2000. Characterization of the chicken serotonin N-acetyltransferase gene. Activation via clock gene heterodimer/E box interaction. J. Biol. Chem. 275:32991-32998.


## CHROMOSOMAL LOCATION

Genetic locus: NPAS2 (human) mapping to 2q11.2.

## SOURCE

NPAS2 (FT-68) is a mouse monoclonal antibody raised against recombinant NPAS2 protein of human origin.

## PRODUCT

Each vial contains 50 µg $IgG_{2a}$ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

NPAS2 (FT-68) is recommended for detection of NPAS2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NPAS2 siRNA (h): sc-38169, NPAS2 shRNA Plasmid (h): sc-38169-SH and NPAS2 shRNA (h) Lentiviral Particles: sc-38169-V.

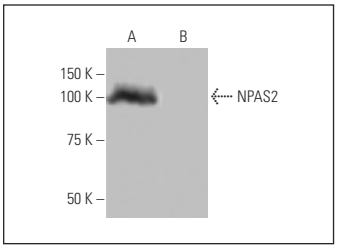
Molecular Weight of NPAS2: 91 kDa.

Positive Controls: human NPAS2 transfected 293T whole cell lysate.

## 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).

## DATA




NPAS2 (FT-68): sc-134404. Western blot analysis of NPAS2 expression in human NPAS2 transfected (**A**) and non-transfected (**B**) 293T whole cell lysates.

## RESEARCH USE

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