

# NPAS4 (4E4): sc-293239

## BACKGROUND

The Per-Arnt-Sim (PAS) domain is a 270 amino acid motif that mediates associations among various PAS family transcription factors. The PAS family contains neuronal specific transcription factors known as NPAS1, NPAS2, NPAS3 and NPAS4, which are involved in the development and maintenance of learning and memory pathways. NPAS1 regulates erythropoietin expression in developing brain. NPAS2, also designated PAS 4/MOP-4, associates with MOP-3 to activate transcription. NPAS3, which localizes to the nucleus and is ubiquitously expressed in the adult brain, may be involved in neurogenesis and has been implied to control regulatory pathways relevant to psychotic illness and schizophrenia. NPAS4 (neuronal PAS domain protein 4), also known as NXF, Le-PAS, PASD10 or bHLHe79, is a 802 amino acid nuclear protein that is exclusively expressed in the brain. NPAS4 acts as a transcriptional activator in the presence of Arnt 1, and activates the CME (CNS midline enhancer) element and expression of the Drebrin gene.

## REFERENCES

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- Coba, M.P., et al. 2008. Kinase networks integrate profiles of N-methyl-D-aspartate receptor-mediated gene expression in hippocampus. *J. Biol. Chem.* 283: 34101-34107.
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- Ooe, N., et al. 2009. Characterization of functional heterodimer partners in brain for a bHLH-PAS factor NXF. *Biochim. Biophys. Acta* 1789: 192-197.
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## CHROMOSOMAL LOCATION

Genetic locus: NPAS4 (human) mapping to 11q13.2.

## RESEARCH USE

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

## SOURCE

NPAS4 (4E4) is a mouse monoclonal antibody raised against amino acids 704-802 of NPAS4 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

NPAS4 (4E4) is recommended for detection of NPAS4 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).

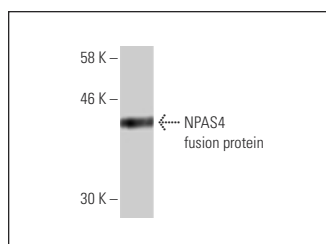
Suitable for use as control antibody for NPAS4 siRNA (h): sc-96790, NPAS4 shRNA Plasmid (h): sc-96790-SH and NPAS4 shRNA (h) Lentiviral Particles: sc-96790-V.

Molecular Weight of NPAS4: 100 kDa.

## 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



NPAS4 (4E4): sc-293239. Western blot analysis of human recombinant NPAS4 fusion protein.

## 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](http://www.scbt.com) for detailed protocols and support products.