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NPAS4 Antibody (internal region)

Peptide-affinity purified goat antibody
Catalog # AF3412a

Specification

NPAS4 Antibody (internal region) - Product Information

Application	**WB**
Primary Accession	Q8IUM7
Other Accession	NP_849195.2, 266743, 225872 (mouse), 266734 (rat)
Reactivity	**Human, Mouse, Rat**
Predicted	**Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**87117**

NPAS4 Antibody (internal region) - Additional Information

Gene ID 266743

Other Names
Neuronal PAS domain-containing protein 4, Neuronal PAS4, Class E basic helix-loop-helix protein 79, bHLHe79, HLH-PAS transcription factor NXF, PAS domain-containing protein 10, NPAS4, BHLHE79, NXF, PASD10

Format
0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
NPAS4 Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

NPAS4 Antibody (internal region) - Protein Information

Name NPAS4 (HGNC:18983)

Function
Transcription factor expressed in neurons of the brain that regulates the excitatory-inhibitory balance within neural circuits and is required for contextual memory in the hippocampus (By similarity). Plays a key role in the structural and functional plasticity of neurons (By similarity). Acts as an early-response transcription factor in both excitatory and inhibitory neurons, where it

induces distinct but overlapping sets of late-response genes in these two types of neurons, allowing the synapses that form on inhibitory and excitatory neurons to be modified by neuronal activity in a manner specific to their function within a circuit, thereby facilitating appropriate circuit responses to sensory experience (By similarity). In excitatory neurons, activates transcription of BDNF, which in turn controls the number of GABA- releasing synapses that form on excitatory neurons, thereby promoting an increased number of inhibitory synapses on excitatory neurons (By similarity). In inhibitory neurons, regulates a distinct set of target genes that serve to increase excitatory input onto somatostatin neurons, probably resulting in enhanced feedback inhibition within cortical circuits (By similarity). The excitatory and inhibitory balance in neurons affects a number of processes, such as short-term and long-term memory, acquisition of experience, fear memory, response to stress and social behavior (By similarity). Acts as a regulator of dendritic spine development in olfactory bulb granule cells in a sensory-experience-dependent manner by regulating expression of MDM2 (By similarity). Efficient DNA binding requires dimerization with another bHLH protein, such as ARNT, ARNT2 or BMAL1 (PubMed:14701734). Can activate the CME (CNS midline enhancer) element (PubMed:14701734).

Cellular Location
Nucleus {ECO:0000250|UniProtKB:Q8BGD7, ECO:0000255|PROSITE-ProRule:PRU00981}

Tissue Location
Brain..

NPAS4 Antibody (internal region) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

NPAS4 Antibody (internal region) - Images

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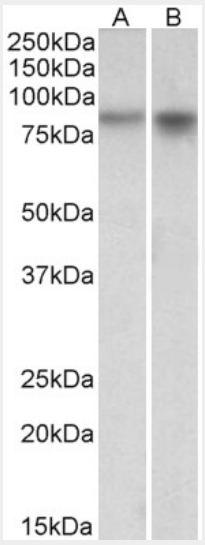
AF3412a (0.3 µg/ml) staining of Human Frontal Cortex lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



AF3412a (1 µg/ml) staining of Mouse (A) and Rat (B) Brain lysates (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

NPAS4 Antibody (internal region) - References

Identification of a novel basic helix-loop-helix-PAS factor, NXF, reveals a Sim2 competitive, positive regulatory role in dendritic-cytoskeleton modulator drebrin gene expression. Ooe N, Saito K, Mikami N, Nakatuka I, Kaneko H, Molecular and cellular biology 2004 Jan 24 (2): 608-16. PMID: 14701734