Revision 1

Store at -20C

#77024

# Alpha-internexin Antibody

Cell Signaling TECHNOLOGY®

**Orders:** 877-616-CELL (2355) orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|---|
| W | H M R | Endogenous | 62-67 | Rabbit | #Q16352 | 9118 |

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. *Do not aliquot the antibody.*

## Specificity/Sensitivity

Alpha-internexin Antibody recognizes endogenous levels of total Alpha-internexin protein.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human Alha-internexin protein. Antibodies are purified by peptide affinity chromatography.

## Background

Alpha-internexin is a class-IV neuronal intermediate filament that is involved in morphogenesis of neurons and is localized mostly in synaptic vesicles, primarily found in the post-synaptic compartment where it modulates neurotransmission function by interacting with different neurotransmitter receptors (1,2). Alpha-internexin interacts with tubulin and actin, suggesting its role in axonal transport and stabilization of dendrites (2-4). Expression of Alpha-internexin occurs in embryonic stages in rat at E10 in the cortex, auditory ganglion, olfactory epithelial, spinal cord and brainstem, and expression also occurs in postnatal stages in the cerebellum in mice and humans (3). Alpha-internexin expression is altered in different neurological diseases and disorders; where it decreases in bipolar disorder and increases in schizophrenia and Alzheimer's disease (4-6). Some of these findings were generated by proteomic analysis from Alzheimer's disease and control brains (4). The overexpression of Alpha-internexin enhances the neurite outgrowth during neuronal growth factor induction (7), induces the activation caspase-3, which triggers apoptosis and eventually neuronal death (8). Alpha-internexin could be playing a role in drug addiction, where chronic cocaine exposure decreases the levels of the protein, but not with morphine exposure, suggesting the possibility to interact with different receptors (5,9).

## Background References

1. Yuan, A. et al. (2015) *Mol Psychiatry* 20, 986-94.
2. Suzuki, T. et al. (2018) *J Neurochem* 144, 390-407.
3. Kirkcaldie, M.T.K. and Dwyer, S.T. (2017) *Mol Cell Neurosci* 84, 68-76.
4. Zhou, J. et al. (2013) *Clin Chim Acta* 420, 62-8.
5. Yuan, A. and Nixon, R.A. (2016) *Brain Res Bull* 126, 334-46.
6. Yuan, A. et al. (2017) *Cold Spring Harb Perspect Biol* 9, pii: a018309. doi: 10.1101/cshperspect.a018309.
7. Chien, C.L. et al. (2005) *J Neurosci Res* 80, 693-706.
8. Lee, W.C. et al. (2012) *PLoS One* 7, e43883.
9. Beitner-Johnson, D. et al. (1992) *J Neurosci* 12, 2165-76.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting

## Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat

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