

# Stargazin Antibody



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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   | 40        | Rabbit          | #Q9Y698     | 10369           |

## Product Usage Information

### Application

Western Blotting

### Dilution

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

Stargazin Antibody detects endogenous levels of total stargazin protein.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues of human stargazin. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

Stargazin is a four-pass transmembrane protein related to VDCC (voltage dependent calcium channel)  $\gamma$  subunits and part of the TARP (transmembrane AMPA receptor regulatory protein) family of proteins. TARP proteins can form a complex with AMPA receptors (GluR1-4) and serve as integral auxiliary subunits (1-6).

Interactions between stargazin and AMPA receptors are implicated in regulation of receptor surface expression, synaptic clustering and recycling, as well as increased receptor responsiveness to glutamate (1,2,5,6). Stargazin may play a role in the molecular mechanism of AMPAR-mediated inflammatory pain by taking part in signaling pathways that relay pain in the spinal cord (5). Because the protein also modulates the pharmacology of AMPA receptors, it enhances the effects of AMPAR potentiators that have therapeutic potential for a number of mental and neurodegenerative diseases (6).

The carboxy terminus of the stargazin protein interacts with the PDZ domains of PSD95 and other membrane-associated guanylate kinase (MAGUK) family members, and together traffic AMPA receptors to the cell surface membrane, anchoring them to the postsynaptic site (1,7). Phosphorylation of stargazin by PKA on Thr321 inhibits this binding (3).

## Background References

- Tomita, S. et al. (2005) *Nature* 435, 1052-1058.
- Priel, A. et al. (2005) *J. Neurosci.* 25, 2682-2686.
- Choi, J. et al. (2002) *J. Biol. Chem.* 277, 12359-12363.
- Osten, P. and Stern-Bach, Y. (2006) *Curr. Opin. Neurobiol.* 16, 275-280.
- Tao, F. et al. (2006) *J. Neurosci. Res.* 84, 867-873.
- Tomita, S. et al. (2006) *Proc. Natl. Acad. Sci. USA* 103, 10064-10067.
- Schnell, E. et al. (2002) *Proc. Natl. Acad. Sci. USA* 99, 13902-13907.

## 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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