

Alexa Fluor[®] 594 anti-TARP γ 2 (Stargazin) Antibody

Catalog# / Size	681604 / 100 μ g
Clone	N245/1
Regulatory Status	RUO
Other Names	MRD10, TARP gamma-2, Voltage-dependent calcium channel gamma-2 subunit, TARP gamma-2, transmembrane AMPAR regulatory protein gamma-2, neuronal voltage-gated calcium channel gamma-2 subunit
Isotype	Mouse IgG2a
Description	Transmembrane AMPAR regulatory protein (TARP) γ 2, also known as voltage-dependent calcium channel γ 2 (CACNG2), MRD10, and stargazin, is a subunit of L-type calcium channels that stabilizes inactive (closed state) calcium channels. Stargazin has an essential role in learning due its role in AMPAR transport.

Encoded by CACNG2 gene, TARP γ 2 (Stargazin), a 36-kD protein, is a brain-specific transmembrane AMPA receptor regulatory protein that modulates the trafficking and ion channel kinetics of glutamate AMPA receptors. It is also a putative subunit of neuronal voltage-gated calcium channels. Six TARP isoforms, γ -2 (stargazin), γ -3, γ -4, γ -5, γ -7, and γ -8, have distinct though partially overlapping patterns of expression in the central nervous system (CNS). Stargazin not only mediates AMPA receptor trafficking, but also shapes synaptic responses by slowing channeling deactivation and desensitization. It alters AMPA receptor kinetics by increasing the rate of channel opening. Disrupting the interaction of stargazin ectodomain with hippocampal AMPA receptors alters the shape of synaptic responses, which establishes a crucial function for stargazin in controlling the efficacy of synaptic transmission in the brain.

Product Details

Verified Reactivity	Human, Mouse, Rat
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	This monoclonal antibody was raised against a fusion protein corresponding to amino acids 203-323 (cytoplasmic C-terminus) of rat TARP γ 2.
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor [®] 594 under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	ICC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by immunocytochemistry. For immunocytochemistry, a concentration range of 0.1 - 10 μ g/ml is recommended. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor [®] 594 has an excitation maximum of 590 nm, and a maximum emission of 617 nm. Alexa Fluor [®] and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Application Notes	This antibody is effective in Immunocytochemistry (ICC). ICC Positive Control: Human SH-SY5Y cell line

RRID

AB_2566481 (BioLegend Cat. No. 681604)

Antigen Details

Structure	323 amino acids with a predicted molecular weight of 36 kD.
Distribution	Plasma membrane.
Function	Regulates the trafficking and gating properties of AMPA-selective glutamate receptors (AMPA receptors). Promotes their targeting to the cell membrane and synapses and modulates their gating properties.
Interaction	DLG4/PSD-95 and DLG1/SAP97, GOPC (by similarity), GRIA1, found in a complex with GRIA1, GRIA2, GRIA3, GRIA4, CNIH2, CNIH3, CACNG3, CACNG4, CACNG5, CACNG7, and CACNG8 (by similarity).
Ligand/Receptor	Acts as an auxiliary subunit for AMPA-selective glutamate receptors.
Biology Area	Cell Biology, Signal Transduction
Antigen References	<ol style="list-style-type: none">1. Letts VA, <i>et al.</i> 1998. <i>Nat. Genet.</i> 4:340.2. Chen L, <i>et al.</i> 2000. <i>Nature</i> 408:936.3. Fukaya M, <i>et al.</i> 2005. <i>Neurosci. Res.</i> 53:376.4. Nissenbaum J, <i>et al.</i> 2010. <i>Genome Res.</i> 9:1180.5. Rigby M, <i>et al.</i> 2015. <i>J. Neurosci.</i> 35:4203.6. Hamdan FF, <i>et al.</i> 2011. <i>Am. J. Hum. Genet.</i> 88:306.
Gene ID	84347

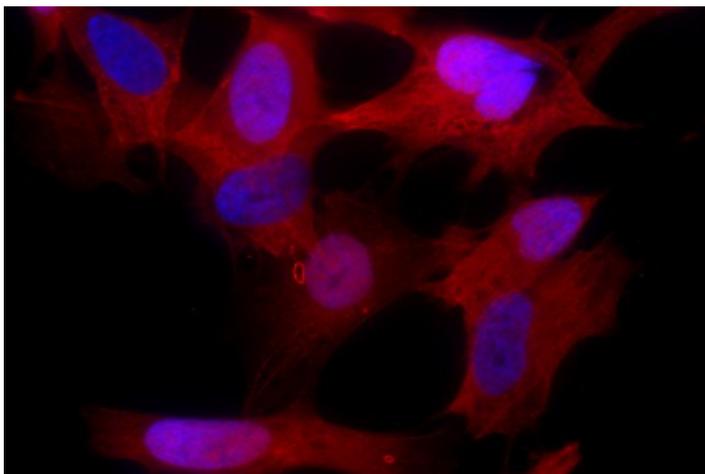
Related Protocols

[Immunocytochemistry Staining Protocol](#)

Other Formats

Alexa Fluor® 594 anti-TARP γ 2 (Stargazin)

Product Data



SH-SY5Y cells were fixed with 4% paraformaldehyde (PFA) and blocked with 5% FBS. Then the cells were stained with 5 μ g/ml Alexa Fluor® 594 anti-TARP γ 2 (Stargazin) Antibody (red). Nuclei were counterstained with DAPI and are shown in blue. The image was captured with a 60X objective.

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