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Antibodies to Cytosine-knot AMPAR modulating protein 44a/b

Cytosine-knot AMPAR modulating protein 44a/b antibodies. Catalog # CKAMP44ab-101AP, FITC-CKAMP44ab, P-CKAMP44ab

Accession # ADD64956.1 and ADD64957.1 and Alternate Nomenclature: Shisha homolog 9 isoform 1/2 precursor

Cytosine-knot AMPAR modulating protein 44 (CKAMP44) is a novel protein that was recently identified as a brain-specific type 1 transmembrane protein that associates with AMPA receptors in synaptic spines (1). AMPA receptors (AMPA) mediate fast synaptic transmissions in the vertebrate central nervous system (2). AMPARs are composed of four types of subunits, named as GluR1, GluR2, GluR3, and GluR4, which combine to form tetramers (3, 4). Several AMPAR-interacting proteins have been identified that affect the receptors' subcellular localization, synaptic stabilization, and kinetics, these include transmembrane AMPAR regulatory proteins (TARPs), Sol-1 and cornichons (5-7). CKAMP44, located on human and mouse chromosome 16, was recently identified as another AMPAR-interacting protein (1). CKAMP44 was shown to modulate short-term plasticity at some excitatory synapses. In *Xenopus Oocytes*, expression of CKAMP44 reduced GluR1 and GluR2 mediated steady-state currents, but it did not affect kainite or NMDA receptor-mediated currents (1). CKAMP44 contains an extracellular N-terminal cysteine-rich motif with eight cysteines that are highly conserved across vertebrate species. Six of these eight cysteine residues might function as stabilizers for the Cys-knot structure of the CKAMP44 (1). RT-PCR analysis from various mouse tissues RNA revealed two splice variants, CKAMP44a and CKAMP44b, which differ by only 48 bases (1). This CKAMP44-specific antibody recognizes both splice variants. Its expression is restricted to the brain; its mRNA is present in most brain structures during embryonic and postnatal development. CKAMP44a is approximately a 52kDa protein (432 amino acids) and CKAMP44b is approximately a 49kDa protein (407 amino acids).

The CKAMP44a/b-selective antibodies were generated using peptide corresponding to mouse Cytosine-knot AMPAR modulating 44a and 44b protein. CKAMP44a/b-antibodies are affinity purified over immobilized antigen based chromatography, and the purified immunoglobulins are stabilized in antibody stabilization buffer. FabGennix Int. Inc., will also provide limited quantities of antigenic blocking protein for CKAMP44a/b-101AP antibody. Antibodies to CKAMP44a/b (CKAMP44ab-101AP) will label ~52kDa CKAMP44a and ~49kDa CKAMP44b protein in Western blot positive control samples for CKAMP44a/b and several other tissues. FabGennix Inc. will conjugate this and other antibodies from its catalog to either secondary enzymes (alk-Pase or HRP) or fluorescent probes at a nominal cost upon request. FabGennix also provides custom antibody production services for researchers that are looking for high affinity mono and polyclonal antibodies in various species. We specialize in making application specific antibodies that are useful in IHC, confocal and other applications where native antigen is detected. For a complete listing of all FabGennix antibodies please visit www.Fabgennix.com.

Catalog #	Host Species	Nature	Cross reactivity	Quantity	Volume
CKAMP44ab-101AP	Rabbit	Affinity purified CKAMP44ab antibodies	h, m, monk	100 ug	200ul
FITC- CKAMP44ab	Rabbit	FITC-conjugated CKAMP44ab antibody	h, m, monk	100ug	200ul
P- CKAMP44ab	n/a	Antigenic blocking peptide for CKAMP44ab-01AP	n/a	250 ug	100ul
PC- CKAMP44ab	n/a	Western blotting positive control for CKAMP44ab	n/a	For 5 appl	Inquire

R = rat; M = mouse; H = human; C = chicken; monk = monkey ; * not all variants are labeled equally

Immunogen: Synthetic peptides corresponding to unique epitope on CKAMP44a/b. The CKAMP44a/b peptide was selected from C-terminal, amino acids 360-400. This peptide was covalently modified post-synthetically to achieve desired antigenicity.

Concentration: CKAMP44ab-101AP: IgG concentration 0.64-0.72 mg/ml in antibody stabilization buffer.

Applications: Antibody CKAMP44ab-101AP is ideal for WB and ELISA applications, other applications have not been tested. The species cross reactivity for these antibodies have not been examined fully. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay. WB: > 1:500; IMM & i.p pull-down assays: n.d; IHC n.d. ELISA <1:10,000. Application of this antibody in protocols not listed here does not necessarily exclude its use in such procedures.

Western Blot of CKAMP44ab. CKAMP44ab antibody (cat # CKAMP44ab-101AP) at 1:500 dilution was probed with PC-CKAMP44ab sample. MW of CKAMP44a is approximately 52kDa and 49kDa for CKAMP44b.

Reactivity: This antibody detects a single band of approximately 52 and 49kDa in PC-CKAMP44ab samples.

Protocols: Standard protocol for various applications (WB; IMM and IHC) of this antibody is provided with the product specification sheet, however, FabGennix Inc., strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.

Form/Storage: The antiserum is supplied in antibody stabilization buffer. The affinity-purified antibodies are isolated on immobilized antigen-affinity column and supplied as stabilized product. Store at -20°C for long-term storage. FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45um filter after every use for long-term storage.

Notes: Briefly centrifuge to collect liquid, heat or boil PC-CKAMP44ab tube for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature. Repeated freezing and thawing may result in appearance of higher MW immunoreactive bands.

New Reagents: Now you can recycle your western blots (nitrocellulose, supported membranes and PVDF membranes) by using our StripOBuffer (Cat FGI-1989). Each stripping is guaranteed to give better signal (up to 8 stripping). No strong pungent smell of reducing agents or heating required. Block in 5X diluOBuffer and you are ready for blotting with a new antibody

References:

- Engelhardt JV, et al. CKAMP44: A brain-specific protein attenuating short-term synaptic plasticity in the dentate gyrus. *Science*. 19 March 2010; 327(5927):1518-1522.
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- Song I, Hagan RL. Regulation of AMPA receptors during synaptic plasticity. *Trends Neurosci*. 2002; 25(11):578-588.
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- Tomita S, et al. Stargazin modulates AMPA receptor gating and trafficking by distinct domains. *Nature*. 2005; 435:1052-1058.
- Zheng Y, et al. SOL-1 is a CUB-domain protein required for GLR-1 glutamate receptor function in *C. elegans*. *Nature*. 2004; 427:451-457.

* For users who may require large amounts of CKAMP44ab-101AP, please enquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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