SANTA CRUZ BIOTECHNOLOGY, INC.

# KA2 (N-17): sc-8914

## BACKGROUND

Glutamate receptors mediate most excitatory neurotransmission in the brain and play an important role in neural plasticity, neural development and neurodegeneration. Ionotropic glutamate receptors are categorized into NMDA receptors and kainate/AMPA receptors, both of which contain glutamate-gated, cation-specific ion channels. Kainate/AMPA receptors are co-localized with NMDA receptors in many synapses and consist of the structurally related subunits GluR-1 to -7, KA1 and KA2. KA1 (also designated EEA1) and KA2 (also designated EEA2) form heteromeric receptors with GluR subunits when coexpressed, forming ion channels with various properties. The kainate/AMPA receptors are primarily responsible for the fast excitatory neuro-transmission by glutamate.

## REFERENCES


1. Choi, D.W., et al. 1990. The role of glutamate neurotoxicity in hypoxic-ischemic neuronal death. Ann. Rev. Neurosci. 13: 171-182.
2. Nakanishi, S. 1992. Molecular diversity of glutamate receptors and implications for brain function. Science 258: 597-603.
3. Kamboj, R.K., et al. 1992. Molecular structure and pharmacological characterization of humEAA2, a novel human kainate receptor subunit. Mol. Pharmacol. 42: 10-15.
4. Herb, A., et al. 1992. The KA2 subunit of excitatory amino acid receptors shows widespread expression in brain and forms ion channels with distantly related subunits. Neuron 8: 775-785.
5. Stern, P., et al. 1992. Fast and slow components of unitary EPSCs on stellate cells elicited by focal stimulation in slices of rat visual cortex. J. Physiol. 449: 247-278.
6. Hollmann, M., et al. 1994. Cloned glutamate receptors. Ann. Rev. Neurosci. 17: 31-108.


## CHROMOSOMAL LOCATION

Genetic locus: GRIK5 (human) mapping to 19q13.2; Grik5 (mouse) mapping to 7 A3.

## SOURCE

KA2 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of KA2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8914 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

KA2 (N-17) is recommended for detection of KA2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

KA2 (N-17) is also recommended for detection of KA2 in additional species, including canine and porcine.

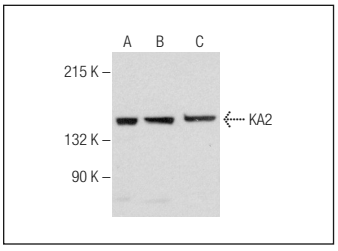
Suitable for use as control antibody for KA2 siRNA (h): sc-42495, KA2 siRNA (m): sc-42496, KA2 shRNA Plasmid (h): sc-42495-SH, KA2 shRNA Plasmid (m): sc-42496-SH, KA2 shRNA (h) Lentiviral Particles: sc-42495-V and KA2 shRNA (m) Lentiviral Particles: sc-42496-V.

Positive Controls: Mouse brain extract: sc-2253, rat brain extract: sc-2392 or mouse cerebellum extract: sc-2403.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA




KA2 (N-17): sc-8914. Western blot analysis of KA2 expression in mouse brain (**A**), rat brain (**B**) and mouse cerebellum (**C**) tissue extracts.

## SELECT PRODUCT CITATIONS


1. Berman, R.F., et al. 2008. Low-level neonatal thimerosal exposure: further evaluation of altered neurotoxic potential in SJL mice. Toxicol. Sci. 101: 294-309.


## RESEARCH USE

For research use only, not for use in diagnostic procedures.