SANTA CRUZ BIOTECHNOLOGY, INC.

GluR-3 (N-19): sc-7613

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 seven structurally related subunits designated GluR-1 to -7. The kainate/AMPA receptors are primarily responsible for the fast excitatory neurotransmission by glutamate, whereas the NMDA receptors are functionally characterized by a slow kinetic and a high permeability for Ca^{2+} ions. The NMDA receptors consist of five subunits: ε 1, 2, 3, 4 and one ζ subunit. The ζ subunit is expressed throughout the brainstem, whereas the four ε subunits display limited distribution.

REFERENCES

1. Choi, D.W., et al. 1990. The role of glutamate neurotoxicity in hypoxic-ischemic neuronal death. Annu. Rev. Neurosci. 13: 171-182.
2. Nakanishi, S. 1992. Molecular diversity of glutamate receptors and implications for brain function. Science 258: 597-603.
3. 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.
4. Bliss, T.V., et al. 1993. A synaptic model of memory: long-term potentiation in the hippocampus. Nature 361: 31-39.
5. Hollmann, M., et al. 1994. Cloned glutamate receptors. Annu. Rev. Neurosci. 17: 31-108.

CHROMOSOMAL LOCATION

Genetic locus: GRIA3 (human) mapping to Xq25; Gria3 (mouse) mapping to X A3.3.

SOURCE

GluR-3 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of GluR-3 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-7613 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.

RESEARCH USE

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

APPLICATIONS

GluR-3 (N-19) is recommended for detection of GluR-3 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

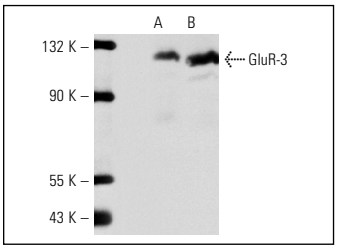
GluR-3 (N-19) is also recommended for detection of GluR-3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GluR-3 siRNA (h): sc-35489, GluR-3 siRNA (m): sc-35490, GluR-3 shRNA Plasmid (h): sc-35489-SH, GluR-3 shRNA Plasmid (m): sc-35490-SH, GluR-3 shRNA (h) Lentiviral Particles: sc-35489-V and GluR-3 shRNA (m) Lentiviral Particles: sc-35490-V.

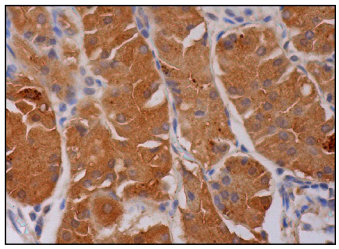
Molecular Weight of GluR-3: 103 kDa.

Positive Controls: mouse brain extract: sc-2253, rat brain extract: sc-2392 or T98G cell lysate: sc-2294.

DATA



GluR-3 (N-19): sc-7613. Western blot analysis of glutamate receptor-3 (GluR-3) expression in rat (**A**) and mouse (**B**) brain tissue extracts.



GluR-3 (N-19): sc-7613. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Bigini, P., et al. 2006. Expression of AMPA and NMDA receptor subunits in the cervical spinal cord of wobbler mice. BMC Neurosci. 7: 71.
2. Bakshi, K., et al. 2009. Prenatal cocaine reduces AMPA receptor synaptic expression through hyperphosphorylation of the synaptic anchoring protein GRIP. J. Neurosci. 29: 6308-6319.
3. Bigini, P., et al. 2012. Increased [^{3}H]D-aspartate release and changes in glutamate receptor expression in the hippocampus of the mnd mouse. J. Neurosci. Res. 90: 1148-1158.