

GluR-2 (N-19): sc-7611

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 neuro-transmission 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

- Choi, D.W., et al. 1990. The role of glutamate neurotoxicity in hypoxic-ischemic neuronal death. *Ann. Rev. Neurosci.* 13: 171-182.
- 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.
- Nakanishi, S. 1992. Molecular diversity of glutamate receptors and implications for brain function. *Science* 258: 597-603.
- Bliss, T.V., et al. 1993. A synaptic model of memory: long-term potentiation in the hippocampus. *Nature* 361: 31-39.
- Hollmann, M., et al. 1994. Cloned glutamate receptors. *Ann. Rev. Neurosci.* 17: 31-108.
- Watanabe, M., et al. 1994. Distinct distributions of five NMDA receptor channel subunit mRNAs in the brainstem. *J. Comp. Neurol.* 343: 520-531.
- Schiffer, H.H., et al. 1997. Rat GluR7 and a carboxy-terminal splice variant, GluR7 β , are functional kainate receptor subunits with a low sensitivity to glutamate. *Neuron* 19: 1141-1146.

CHROMOSOMAL LOCATION

Genetic locus: GRIA2 (human) mapping to 4q32.1; Gria2 (mouse) mapping to 3 E3.

SOURCE

GluR-2 (N-19) is available as either goat (sc-7611) or rabbit (sc-7611-R) polyclonal affinity purified antibody raised against a peptide mapping at the N-terminus of GluR-2 of human origin.

PRODUCT

Each vial contains either 100 μg (sc-7611) or 200 μg (sc-7611-R) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7611 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin conjugate for flow cytometry, sc-7611 PE, 100 tests.

APPLICATIONS

GluR-2 (N-19) is recommended for detection of GluR-2 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), flow cytometry (1 μg per 1×10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

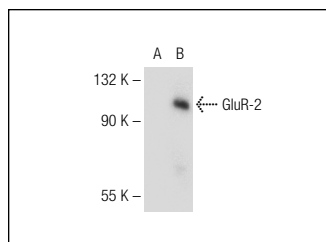
GluR-2 (N-19) is also recommended for detection of GluR-2 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for GluR-2 siRNA (h): sc-35487, GluR-2 siRNA (m): sc-35488, GluR-2 shRNA Plasmid (h): sc-35487-SH, GluR-2 shRNA Plasmid (m): sc-35488-SH, GluR-2 shRNA (h) Lentiviral Particles: sc-35487-V and GluR-2 shRNA (m) Lentiviral Particles: sc-35488-V.

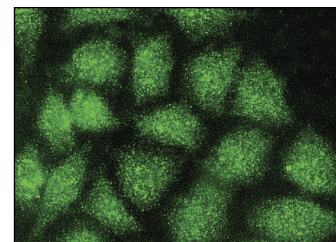
Molecular Weight of GluR-2: 100 kDa.

Positive Controls: GluR-2 (h2): 293 Lysate: sc-158551, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

DATA



GluR-2 (N-19): sc-7611. Western blot analysis of GluR-2 expression in non-transfected: sc-110760 (A) and human GluR-2 transfected: sc-158551 (B) 293 whole cell lysates.



GluR-2 (N-19): sc-7611. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

- Steinmetz, C.C., et al. 2010. Tumor necrosis factor- α signaling maintains the ability of cortical synapses to express synaptic scaling. *J. Neurosci.* 30: 14685-14690.
- Kennard, J.T., et al. 2011. Stargazin and AMPA receptor membrane expression is increased in the somatosensory cortex of genetic absence epilepsy rats from Strasbourg. *Neurobiol. Dis.* 42: 48-54.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.