

# GluR-2 (C-20): sc-7610

## 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  $\text{Ca}^{2+}$  ions. The NMDA receptors consist of five subunits:  $\epsilon$  1, 2, 3, 4 and one  $\zeta$  subunit. The  $\zeta$  subunit is expressed throughout the brainstem, whereas the four  $\epsilon$  subunits display limited distribution.

## REFERENCES

- Choi, D.W., et al. 1990. The role of glutamate neurotoxicity in hypoxic-ischemic neuronal death. *Annu. Rev. Neurosci.* 13: 171-182.
- Nakanishi, S. 1992. Molecular diversity of glutamate receptors and implications for brain function. *Science* 258: 597-603.

## CHROMOSOMAL LOCATION

Genetic locus: GRIA2 (human) mapping to 4q32.1, GRIA3 (human) mapping to Xq25; Gria2 (mouse) mapping to 3 E3, Gria3 (mouse) mapping to X A3.3.

## SOURCE

GluR-2 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GluR-2 of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7610 P, (100  $\mu\text{g}$  peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as PE conjugate for flow cytometry, sc-7610 PE, 100 tests.

## APPLICATIONS

GluR-2 (C-20) is recommended for detection of GluR-2 and, to a lesser extent, GluR-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1  $\mu\text{g}$  per  $1 \times 10^6$  cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GluR-2 (C-20) is also recommended for detection of GluR-2 and, to a lesser extent, GluR-3 in additional species, including equine, canine, bovine, porcine and avian.

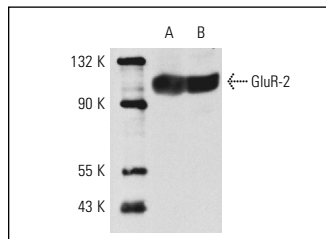
Molecular Weight of GluR-2: 100 kDa.

Positive Controls: mouse brain extract: sc-2253, rat brain extract: sc-2392 or BC<sub>3</sub>H1 cell lysate: sc-2299.

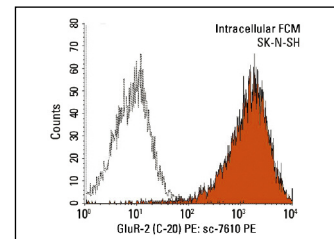
## STORAGE

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

## DATA



GluR-2 (C-20): sc-7610. Western blot analysis of GluR-2 (glutamate receptor 2) expression in rat (A) and mouse (B) brain tissue extracts.



GluR-2 (C-20) PE: sc-7610 PE. Intracellular FCM analysis of fixed and permeabilized SK-N-SH cells. Black line histogram represents the isotype control, normal goat IgG: sc-3992.

## SELECT PRODUCT CITATIONS

- Burette, A., et al. 2001. Differential cellular and subcellular localization of ampa receptor-binding protein and glutamate receptor-interacting protein. *J. Neurosci.* 21: 495-503.
- Setou, M., et al. 2002. Glutamate-receptor-interacting protein GRIP1 directly steers kinesin to dendrites. *Nature* 417: 114-116.
- Firth, S.I., et al. 2003. AMPA receptors mediate acetylcholine release from starburst amacrine cells in the rabbit retina. *J. Comp. Neurol.* 466: 80-90.
- Monti, B., et al. 2004. Alterations of markers related to synaptic function in aging rat brain, in normal conditions or under conditions of long-term dietary manipulation. *Neurochem. Int.* 44: 579-584.
- Pan, F. and Massey, S.C. 2007. Rod and cone input to horizontal cells in the rabbit retina. *J. Comp. Neurol.* 500: 815-831.
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- Montori, S., et al. 2010. AMPA receptor downregulation induced by ischaemia/reperfusion is attenuated by age and blocked by meloxicam. *Neuropathol. Appl. Neurobiol.* 36: 436-447.
- Gulino, R. and Gulisano, M. 2012. Involvement of brain-derived neurotrophic factor and sonic hedgehog in the spinal cord plasticity after neurotoxic partial removal of lumbar motoneurons. *Neurosci. Res.* 73: 238-247.
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## RESEARCH USE

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