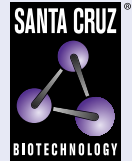


## GluR-4 (F-9): sc-271894



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 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:  $\epsilon$  1, 2, 3, 4 and one  $\zeta$  subunit. The  $\zeta$  subunit is expressed throughout the brainstem, whereas the four  $\epsilon$  subunits display limited distribution.

## CHROMOSOMAL LOCATION

Genetic locus: GRIA4 (human) mapping to 11q22.3; Gria4 (mouse) mapping to 9 A1.

## SOURCE

GluR-4 (F-9) is a mouse monoclonal antibody raised against amino acids 31-75 mapping near the N-terminus of GluR-4 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GluR-4 (F-9) is available conjugated to agarose (sc-271894 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271894 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271894 PE), fluorescein (sc-271894 FITC), Alexa Fluor® 488 (sc-271894 AF488), Alexa Fluor® 546 (sc-271894 AF546), Alexa Fluor® 594 (sc-271894 AF594) or Alexa Fluor® 647 (sc-271894 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271894 AF680) or Alexa Fluor® 790 (sc-271894 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

GluR-4 (F-9) is recommended for detection of GluR-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Suitable for use as control antibody for GluR-4 siRNA (h): sc-35491, GluR-4 siRNA (m): sc-35492, GluR-4 shRNA Plasmid (h): sc-35491-SH, GluR-4 shRNA Plasmid (m): sc-35492-SH, GluR-4 shRNA (h) Lentiviral Particles: sc-35491-V and GluR-4 shRNA (m) Lentiviral Particles: sc-35492-V.

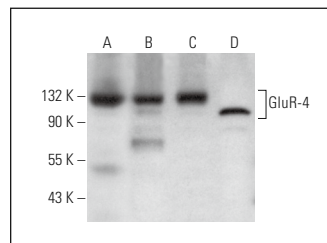
Molecular Weight of GluR-4: 108 kDa.

Positive Controls: rat cerebellum extract: sc-2398, mouse brain extract: sc-2253 or HeLa whole cell lysate: sc-2200.

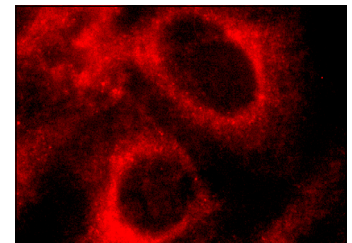
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



GluR-4 (F-9): sc-271894. Western blot analysis of GluR-4 expression in human brain (A), mouse brain (B) and rat cerebellum (C) tissue extracts and HeLa whole cell lysate (D).



GluR-4 (F-9): sc-271894. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Nozawa, A., et al. 2019. Perampnel inhibits neuroblastoma cell proliferation through down-regulation of Akt and ERK pathways. *Anticancer Res.* 39: 3595-3599.
- Kita, K., et al. 2021. GluA4 facilitates cerebellar expansion coding and enables associative memory formation. *Elife* 10: e65152.
- Bhardwaj, A., et al. 2021. AMPA induced cognitive impairment in rats: establishing the role of endoplasmic reticulum stress inhibitor, 4-PBA. *J. Neurosci. Res.* 99: 2573-2591.
- Gómez de San José, N., et al. 2022. Glutamate receptor 4 as a fluid biomarker for the diagnosis of psychiatric disorders. *J. Psychiatr. Res.* 156: 390-397.

## 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](http://www.scbt.com) for detailed protocols and support products.