SANTA CRUZ BIOTECHNOLOGY, INC.

GluR-5 (E-12): sc-393420

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.

CHROMOSOMAL LOCATION

Genetic locus: GRIK1 (human) mapping to 21q21.3; Grik1 (mouse) mapping to 16 C3.3.

SOURCE

GluR-5 (E-12) is a mouse monoclonal antibody raised against amino acids 869-918 mapping at the C-terminus of GluR-5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GluR-5 (E-12) is available conjugated to agarose (sc-393420 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393420 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393420 PE), fluorescein (sc-393420 FITC), Alexa Fluor® 488 (sc-393420 AF488), Alexa Fluor® 546 (sc-393420 AF546), Alexa Fluor® 594 (sc-393420 AF594) or Alexa Fluor® 647 (sc-393420 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393420 AF680) or Alexa Fluor® 790 (sc-393420 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

GluR-5 (E-12) is recommended for detection of GluR-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for GluR-5 siRNA (h): sc-42487, GluR-5 siRNA (m): sc-42488, GluR-5 shRNA Plasmid (h): sc-42487-SH, GluR-5 shRNA Plasmid (m): sc-42488-SH, GluR-5 shRNA (h) Lentiviral Particles: sc-42487-V and GluR-5 shRNA (m) Lentiviral Particles: sc-42488-V.

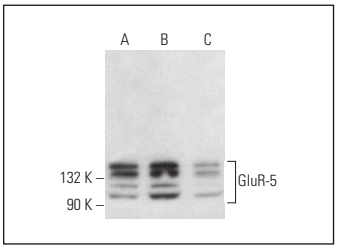
Molecular Weight of GluR-5: 105-110 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or A549 cell lysate: sc-2413.

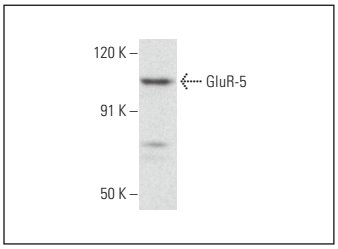
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-5 (E-12): sc-393420. Western blot analysis of GluR-5 expression in HeLa (**A**), Jurkat (**B**) and A549 (**C**) whole cell lysates.



GluR-5 (E-12): sc-393420. Western blot analysis of GluR-5 expression in NRK whole cell lysate.

SELECT PRODUCT CITATIONS

1. Nemitz, L., et al. 2021. Synaptic remodeling in the cone pathway after early postnatal horizontal cell ablation. Front. Cell. Neurosci. 15: 657594.
2. Grabner, C.P., et al. 2023. Mechanisms of simultaneous linear and non-linear computations at the mammalian cone photoreceptor synapse. Nat. Commun. 14: 3486.
3. Yao, Y., et al. 2023. Single-cell RNA sequencing of retina revealed novel transcriptional landscape in high myopia and underlying cell-type-specific mechanisms. MedComm 4: e372.
4. Kawashima, R., et al. 2024. Necl-1/CADM3 regulates cone synapse formation in the mouse retina. iScience 27: 109577.
5. Avilés, E.C., et al. 2024. High temporal frequency light response in mouse retina requires FAT3 signaling in bipolar cells. bioRxiv. E-published.

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 for detailed protocols and support products.