

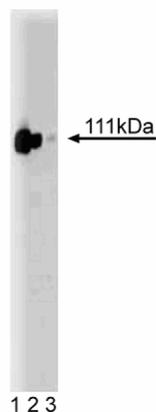
## Technical Data Sheet

**Purified Mouse Anti-GluR  $\delta$ 2****Product Information**

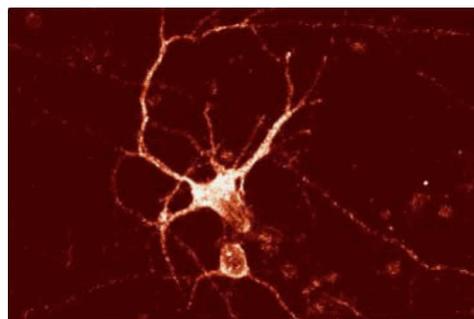
|                         |  |
|-------------------------|--|
| <b>Material Number:</b> | <b>611006</b>  |
| <b>Size:</b>            | 50 $\mu$ g   |
| <b>Concentration:</b>   | 250 $\mu$ g/ml   |
| <b>Clone:</b>           | 48/GluR $\delta$ 2   |
| <b>Immunogen:</b>       | Mouse GluR $\delta$ 2 aa. 665-786  |
| <b>Isotype:</b>         | Mouse IgG1   |
| <b>Reactivity:</b>      | QC Testing: Rat<br>Tested in Development: Mouse                                    |
| <b>Target MW:</b>       | 111 kDa  |
| <b>Storage Buffer:</b>  | Aqueous buffered solution containing BSA, glycerol, and $\leq$ 0.09% sodium azide. |

**Description**

Glutamate is a major excitatory neurotransmitter of the CNS. The diversity of glutamate is exemplified by two distinct groups of receptors: ionotropic and metabotropic. Ionotropic receptors are ligand-gated cation channels. They can be subdivided into two classes: NMDA and AMPA/kainate receptors. GluR  $\delta$ 2 exhibits only 25% amino acid identity to either ionotropic receptor type. It presents selective and abundant expression in cerebellar Purkinje cells. It is targeted to a subset of Purkinje cell spines and is coexpressed with ionotropic receptors. GluR  $\delta$ 2 is involved in motor coordination, Purkinje cell synapse formation, and cerebellar long-term depression (LTD). The latter is a decrease in the efficacy of the synaptic transmission between parallel fibers and Purkinje neurons and is a cellular basis of motor learning. In fact, mGluR  $\delta$ 2-deficient mice lack LTD. Additionally, an amino acid substitution in transmembrane III of  $\delta$ 2 is responsible for the neurodegeneration seen in Lurcher mice. This substitution is a gain of function mutation that results in disruption of Purkinje membrane potential. Thus, GluR  $\delta$ 2 is an important regulatory component of the Purkinje GluR channel.



**Western blot analysis of GluR  $\delta$ 2 on rat brain lysate.**  
Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of GluR  $\delta$ 2.



**Immunofluorescence staining of Rat Neurons**

**Preparation and Storage**

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Store undiluted at  $-20^{\circ}\text{C}$ .

**Application Notes****Application**

|                      |                           |
|----------------------|---------------------------|
| Western blot         | Routinely Tested          |
| Immunohistochemistry | Tested During Development |

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## Suggested Companion Products

| <u>Catalog Number</u> | <u>Name</u>             | <u>Size</u> | <u>Clone</u> |
|-----------------------|-------------------------|-------------|--------------|
| 554002                | HRP Goat Anti-Mouse Ig  | 1.0 ml      | (none)       |
| 554001                | FITC Goat Anti-Mouse Ig | 0.5 mg      | Polyclonal   |
| 611463                | Rat Cerebrum Lysate     | 500 µg      | (none)       |

## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [www.bdbiosciences.com/pharming/en/protocols](http://www.bdbiosciences.com/pharming/en/protocols) for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

## References

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- Hirano T, Kasono K, Araki K, Mishina M. Suppression of LTD in cultured Purkinje cells deficient in the glutamate receptor delta 2 subunit. *Neuroreport.* 1995; 6(3):524-526.(Biology)
- Kashiwabuchi N, Ikeda K, Araki K. Impairment of motor coordination, Purkinje cell synapse formation, and cerebellar long-term depression in GluR delta 2 mutant mice. *Cell.* 1995; 81(2):245-252.(Biology)
- Landsend AS, Amiry-Moghaddam M, Matsubara A. Differential localization of delta glutamate receptors in the rat cerebellum: coexpression with AMPA receptors in parallel fiber-spine synapses and absence from climbing fiber-spine synapses. *J Neurosci.* 1997; 17(2):834-842.(Biology)
- Zuo J, De Jager PL, Takahashi KA, Jiang W, Linden DJ, Heintz N. Neurodegeneration in Lurcher mice caused by mutation in delta2 glutamate receptor gene. *Nature.* 1997; 388(6644):769-773.(Biology)