

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Ser19-Ser509, with a C-terminal 6-His tag
Accession # P41594

N-terminal Sequence Analysis Ser19

Structure / Form Disulfide linked homodimer

Predicted Molecular Mass 56 kDa

SPECIFICATIONS

SDS-PAGE 61-71 kDa, reducing conditions

Activity Bioassay data are not available.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 250 µg/mL in PBS.


Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity not tested



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R&D Systems proteins are almost always sold with a bioassay to indicate activity. However, we recognize that sometimes proteins might be novel, and their bioactivity may not be well understood. In addition, some researchers may wish to use polypeptides to make antibodies. To facilitate the advancement of new science, we now offer our Innovator Series of proteins.

BACKGROUND

Metabotropic glutamate receptors (mGluRs) are coupled to effector systems through GTP-binding proteins and modulate glutamate neurotransmission in the central and peripheral nervous systems (1). Structurally, members from this family are characterized by a large N-terminal extracellular domain (ECD), seven transmembrane, and a cytoplasmic carboxyl-terminal domain variable in length. Two ECDs dimerize together and large conformational changes are induced when agonists bind to one or both domains (3). Intracellularly, a short C-terminus interacts directly with a G-protein (2). The receptors are subdivided into three groups (I-III) based on sequence homology, signal transduction and pharmacological properties (1). Group I includes mGluR1 and mGluR5. This group has been shown to activate phospholipase C and regulates neuronal ion channel activity. Human mGluR5 is 1212 amino acids (aa) in length. The 2-509 amino acids domain represents the ECD, with the apparent molecular mass approximately 64 kDa in SDS-PAGE under reducing conditions. Through its ECD, mGluR5 either homodimerizes or heterodimerizes with the Ca⁺⁺ sensor receptor (4). Over aa 2-509, human mGluR5 is 98% aa identical to mouse and rat mGluR5.

References:

1. Conn PJ, *et al.* (1997) *Annu Rev Pharmacol Toxicol* **37**:205.
2. Pin JP, *et al.* (1995) *Neuropharmacology*. **34**:1.
3. Niswender CM, *et al.* (2010) *Annu Rev Pharmacol Toxicol* **50**:295.
4. Doré AS, *et al.* (2014) *Nature* **511**:557.