Recombinant GRID2 protein (His tag)

Catalog Number	541777
Synonyms	GluD2; GluR delta-2 subunit
Species	Human
Expression System	E. coli
Accession	O43424
Molecular Weight	Predictes a molecular mass of 21.43 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 21 kDa band.

Product Information

Sequence Region	657-830
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 657-830 aa (O43424) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	This recombinant protein is a fragment of human Glutamate receptor ionotropic, delta-2 (GluD2), corresponding to amino acids 657-830. It is designed for structural and biochemical studies, offering a stable and soluble unit ideal for investigating synaptic organization and receptor interactions in the central nervous system. Glutamate receptor ionotropic, delta-2 (GluD2), encoded by the GRID2 gene, is a member of the ionotropic glutamate receptor family and plays a critical role in synaptic organization and signal transduction. Although structurally similar to other glutamate receptors, it does not primarily bind glutamate. Instead, GluD2 promotes synaptogenesis and mediates D-serine-dependent long-term depression and AMPA receptor endocytosis at cerebellar parallel fiber-Purkinje cell synapses through the NRX1B-CBLN1-GRID2 triad complex. Research suggests it may form cation-selective channels gated by glycine and D-serine in the presence of neurexins and cerebellins, though this activity is debated, and it can also be triggered by GRM1 in Purkinje cells. The full-length protein is localized to the postsynaptic cell membrane as a multi-pass membrane protein, underscoring its importance in neural communication and synaptic plasticity.