Recombinant NMDE2 protein (His tag)

Catalog Number	544905
Synonyms	GluN2B; Glutamate [NMDA] receptor subunit epsilon-2; N-methyl D-aspartate receptor subtype 2B; NMDAR2B; NR2B; N-methyl-D-aspartate receptor subunit 3; NR3; hNR3
Species	Human
Expression System	E. coli
Accession	Q13224
Molecular Weight	Predictes a molecular mass of 20.77 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 22 kDa band.

Product Information

Sequence Region	648-819
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 648-819 aa (Q13224) 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 represents a stable and soluble fragment (residues 648-819) of the human Glutamate receptor ionotropic, NMDA 2B (GluN2B), a key subunit of NMDA receptors essential for synaptic plasticity, learning, and memory. The fragment is optimized for structural and biochemical studies, offering researchers a reliable tool to investigate NMDA receptor function without the complexities of the full-length membrane protein. The full-length GluN2B protein, encoded by the GRIN2B gene, is a critical component of N-methyl-D-aspartate (NMDA) receptors, which function as heterotetrameric, ligand-gated cation channels with high calcium permeability. These receptors are voltage-dependent and blocked by Mg^{2+}, requiring binding of L-glutamate to GluN2, glycine or D-serine to GluN1, and membrane depolarization for activation. GluN2B confers specific attributes to channel properties, including activation kinetics, pH sensitivity, and calcium permeability, and plays a central role in long-term depression (LTD) for learning and memory. It is also implicated in pathological processes, such as stroke damage, where phosphorylation by DAPK1 enhances injurious calcium influx. Subcellularly, GluN2B localizes to the cell membrane, postsynaptic membranes, dendrites, late endosomes, lysosomes, and the cytoskeleton, often co-localizing with motor proteins like KIF17 along microtubules, highlighting its dynamic role in neuronal signaling and trafficking.