Recombinant UNC33 protein (His tag)

Catalog Number	531032
Synonyms	Inactive dihydropyrimidinase unc-33; Uncoordinated protein 33
Species	Caenorhabditis elegans
Expression System	E. coli
Accession	Q01630
Gene ID	177112
Molecular Weight	Predictes a molecular mass of 51.18 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 52 kDa band.

Product Information

Sequence Region	333-801
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, 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 333-801 aa (Q01630) 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	Introducing the recombinant Protein unc-33 (Inactive dihydropyrimidinase unc-33) fragment (residues 333-801), a highly stable and soluble 469-amino acid segment derived from Caenorhabditis elegans. This fragment is expertly engineered for structural and biochemical studies, offering researchers a reliable tool to investigate the molecular mechanisms of axonal guidance and cytoskeletal regulation in neuronal development. Protein unc-33, encoded by the unc-33 gene in Caenorhabditis elegans, is essential for neurogenesis, where it plays a critical role in axonal guidance and outgrowth by regulating the polarization of microtubule and actin cytoskeletons. It establishes asymmetry in axonal and dendritic microtubules and facilitates the polarized sorting of neuronal proteins, partly through its interaction with kinesin-like protein unc-104. Additionally, unc-33 controls growth cone filopodial protrusion polarity by promoting F-actin polarization and restricting microtubule accumulation, acting downstream of Rac GTPases and netrin receptors. It is localized to axons and dendrites, contributing to processes such as locomotion, egg-laying, and gap junction turnover in specific isoforms. This fragment (333-801) represents a computationally selected stable unit, ideal for elucidating these complex functions in experimental settings.