Recombinant SEM4 protein (His tag)

Catalog Number	530853
Synonyms	Sex muscle abnormal protein sem-4; Transcription factor sem-4
Species	Caenorhabditis elegans
Expression System	E. coli
Accession	G5EFF4
Gene ID	172435
Molecular Weight	Predictes a molecular mass of 10.03 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 10 kDa band.

Product Information

Sequence Region	566-639
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 566-639 aa (G5EFF4) 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 product features a stable and soluble 74-amino acid fragment (residues 566-639) of the Spalt-like protein sem-4 from Caenorhabditis elegans. This fragment is ideal for structural studies, biochemical assays, and investigating the molecular mechanisms of this key transcription factor involved in cell-fate regulation and detoxification pathways. The full-length Spalt-like protein sem-4 is a transcription factor in Caenorhabditis elegans that localizes to the nucleus and plays multifaceted roles in development and cellular stress response. It functions by binding to specific DNA motifs in regulatory elements of target genes, such as egl-5 and mec-3, to modulate transcription positively and negatively. Sem-4 is critical for cell-fate determination in neuronal, mesodermal, and vulval lineages, where it regulates genes like lin-39 and interacts with other transcription factors like sem-2 to promote sex myoblast fate. Additionally, it contributes to detoxification by regulating skn-1 and phase II detoxification genes to mitigate reactive oxygen species. This fragment represents a structurally predicted stable unit for experimental analysis of sem-4's functional domains.