Recombinant MBD4 protein (His tag)

Catalog Number	544232
Synonyms	Methyl-CpG-binding endonuclease 1; Methyl-CpG-binding protein MBD4; Mismatch-specific DNA N-glycosylase
Species	Human
Expression System	E. coli
Accession	O95243
Molecular Weight	Predictes a molecular mass of 19.02 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 19 kDa band.

Product Information

Sequence Region	436-580
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 436-580 aa (O95243) 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 fragment (residues 436-580) of the human Methyl-CpG-binding domain protein 4 (MBD4), a key enzyme involved in DNA mismatch repair. Designed for structural and biochemical studies, this fragment provides an optimized tool for investigating DNA glycosylase mechanisms and epigenetic regulation. Methyl-CpG-binding domain protein 4 (MBD4) is a mismatch-specific DNA N-glycosylase that plays a critical role in DNA repair processes. It exhibits thymine glycosylase activity specifically targeting G:T mismatches within both methylated and unmethylated CpG sites, and can also remove uracil or 5-fluorouracil in G:U mismatches. Unlike some related enzymes, MBD4 lacks lyase activity. Originally identified as a methyl-CpG-binding protein, MBD4 functions within the nucleus where it contributes to maintaining genomic integrity through its specialized DNA repair capabilities. This nuclear localization underscores its importance in epigenetic regulation and DNA damage response pathways.