Recombinant AICDA protein (His tag)

Catalog Number	545892
Synonyms	Activation-induced cytidine deaminase; AID; Cytidine aminohydrolase
Species	Human
Expression System	E. coli
Accession	Q9GZX7
Molecular Weight	Predictes a molecular mass of 25.61 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 26 kDa band.

Product Information

Sequence Region	1-198
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 1-198 aa (Q9GZX7) 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 human Single-stranded DNA cytosine deaminase (AID) fragment (amino acids 1-198), a high-purity protein encompassing the complete CMP/dCMP-type deaminase domain. This fragment serves as an essential tool for investigating cytidine deamination mechanisms, somatic hypermutation, and DNA demethylation processes in B-cell immunology and epigenetic research. Activation-induced cytidine deaminase (AID), encoded by the AICDA gene, is a single-stranded DNA-specific cytidine deaminase critical for adaptive immunity. It initiates somatic hypermutation, gene conversion, and class-switch recombination in B-lymphocytes by deaminating cytidine to uridine during immunoglobulin gene transcription. This activity is indispensable for antibody diversification and efficient immune responses. Additionally, AID participates in DNA demethylation, suggesting a role in epigenetic regulation. The protein localizes predominantly to the cytoplasm but translocates to the nucleus under specific conditions, such as in the presence of MCM3AP/GANP, highlighting its dynamic subcellular distribution and functional versatility in genomic and epigenetic modifications.