Recombinant PDE4A protein (His tag)

Catalog Number	546883
Synonyms	DPDE2; PDE46; cAMP-specific phosphodiesterase 4A
Species	Human
Expression System	E. coli
Accession	P27815
Molecular Weight	Predictes a molecular mass of 41.11 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 44 kDa band.

Product Information

Sequence Region	342-684
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 342-684 aa (P27815) 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	Recombinant Human 3',5'-cyclic-AMP phosphodiesterase 4A (PDE4A) fragment (residues 342-684) is a high-quality protein product designed for structural and biochemical studies. This 343-amino acid fragment was computationally selected to provide a stable, soluble unit of the cAMP-hydrolyzing enzyme, making it ideal for investigating phosphodiesterase function and regulation. The full-length 3',5'-cyclic-AMP phosphodiesterase 4A (PDE4A) encoded by the PDE4A gene plays a critical role in cellular signaling by specifically hydrolyzing the second messenger cAMP, a key regulator of numerous physiological processes. Multiple isoforms demonstrate efficient cAMP hydrolysis activity, with isoform-specific subcellular localization patterns including cytoplasmic distribution (isoforms 1, 2, 3, 6, 7), perinuclear region concentration (isoforms 1, 2, 6), membrane association (isoforms 4, 7), and presence in cellular projections such as ruffle membranes (isoform 2). The enzyme's specificity for cAMP over cGMP and its insensitivity to calcium, calmodulin, or cGMP levels in certain isoforms highlight its specialized role in cAMP-mediated signaling pathways, making it a valuable target for pharmacological and biochemical research.