Recombinant PP1A protein (His tag)

Catalog Number	544758
Synonyms	PP-1A
Species	Human
Expression System	E. coli
Accession	P62136
Molecular Weight	Predictes a molecular mass of 35.74 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 38 kDa band.

Product Information

Sequence Region	2-299
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 2-299 aa (P62136) 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 Serine/threonine-protein phosphatase PP1-alpha catalytic subunit (PP-1A) fragment (amino acids 2-299), a highly active and stable protein domain ideal for investigating phosphatase mechanisms, signal transduction pathways, and enzyme regulation in biochemical and structural studies. The full-length Serine/threonine-protein phosphatase PP1-alpha (encoded by PPP1CA) is a crucial enzyme in human cells that associates with over 200 regulatory proteins to form specific holoenzymes dephosphorylating hundreds of biological targets. It plays essential roles in cell division, transcription elongation, glycogen metabolism, muscle contractility, protein synthesis, neural development, circadian rhythm regulation, and immune response. PP1-alpha functions as a core catalytic component in multiple complexes, including the PNUTS-PP1 complex that regulates RNA polymerase II transcription and the SHOC2-MRAS-PP1c complex that activates the MAPK pathway through RAF kinase dephosphorylation. Located primarily in the nucleus but excluded from nucleoli, it shuttles between nuclear and cytoplasmic compartments and demonstrates high mobility within cells, with localization modulated by interaction partners. This recombinant fragment represents a stable, soluble unit suitable for structural and functional characterization of this fundamental phosphatase.