Recombinant UMPS protein (His tag)

Catalog Number	546754
Synonyms	UMP synthase; OPRT; OPRTase; ODC; OMPD; OMPdecase
Species	Human
Expression System	E. coli
Accession	P11172
Molecular Weight	Predictes a molecular mass of 53.75 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 54 kDa band.

Product Information

Sequence Region	2-480
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 2-480 aa (P11172) 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 Uridine 5'-monophosphate Synthase (UMPS) Fragment (residues 2-480) from Homo sapiens, a bifunctional enzyme essential for de novo pyrimidine biosynthesis. This stable, soluble fragment is ideal for structural studies and biochemical assays, offering researchers a reliable tool to investigate nucleotide metabolism. Uridine 5'-monophosphate synthase (UMPS) is a bifunctional enzyme in humans that catalyzes the final two steps of de novo pyrimidine biosynthesis. It comprises orotate phosphoribosyltransferase (OPRT; EC 2.4.2.10), which converts orotate to orotidine-5'-monophosphate (OMP), and orotidine-5'-phosphate decarboxylase (ODC; EC 4.1.1.23), which decarboxylates OMP to uridine monophosphate (UMP). This process is critical for producing UMP, a precursor for all pyrimidine nucleotides, supporting DNA and RNA synthesis, cellular growth, and proliferation. The enzyme's role in nucleotide metabolism makes it significant for studying metabolic disorders and therapeutic targets.