Recombinant PYRE protein (His tag)

Catalog Number	533642
Synonyms	OPRT; OPRTase; Uracil phosphoribosyltransferase
Species	Caenorhabditis elegans
Expression System	E. coli
Accession	O61790
Gene ID	172008
Molecular Weight	Predictes a molecular mass of 26.85 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 27 kDa band.

Product Information

Sequence Region	1-227
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, 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 1-227 aa (O61790) 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 Orotate Phosphoribosyltransferase (OPRT) from Caenorhabditis elegans, a versatile enzyme involved in nucleotide biosynthesis. This product features a stable, soluble fragment (residues 1-227) optimized for structural and biochemical studies, offering researchers a reliable tool for investigating pyrimidine salvage and de novo synthesis pathways. Orotate Phosphoribosyltransferase (OPRT) catalyzes key steps in pyrimidine nucleotide metabolism, functioning both as an orotate phosphoribosyltransferase (EC 2.4.2.10) in de novo UMP synthesis by converting orotate to orotidine 5'-phosphate, and as a uracil phosphoribosyltransferase (EC 2.4.2.9) in the salvage pathway by forming UMP from uracil. This dual enzymatic activity positions OPRT as a critical regulator of cellular nucleotide pools, with implications for DNA/RNA synthesis and potential therapeutic targeting in proliferative diseases. The protein's conserved function in Caenorhabditis elegans provides a valuable model for studying fundamental nucleotide metabolic processes.