Recombinant FOLC protein (His tag)

Catalog Number	540187
Synonyms	Folylpoly-gamma-glutamate synthetase; FPGS; Tetrahydrofolylpolyglutamate synthase; Tetrahydrofolate synthase
Species	Human
Expression System	E. coli
Accession	Q05932
Molecular Weight	Predictes a molecular mass of 50.70 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 51 kDa band.

Product Information

Sequence Region	43-479
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, 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 43-479 aa (Q05932) 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 Folylpolyglutamate Synthase (FPGS) Fragment (residues 43-479) is a high-purity protein product designed for structural and biochemical studies. This 437-amino acid fragment, derived from the mitochondrial isoform, retains key functional regions essential for investigating folate metabolism and one-carbon transfer pathways in cellular processes. Folylpolyglutamate synthase (FPGS) catalyzes the conversion of folates to polyglutamate derivatives, enabling intracellular concentration and retention of these critical cofactors. As essential substrates for folate-dependent enzymes, these derivatives play vital roles in one-carbon transfer reactions involved in purine, pyrimidine, and amino acid synthesis. The enzyme demonstrates preference for unsubstituted reduced folates and also metabolizes methotrexate (MTX) to polyglutamates. In human cells, FPGS localizes to both mitochondrial and cytoplasmic compartments, with isoform 1 specifically targeting the mitochondrial inner membrane and matrix, while isoform 2 remains cytoplasmic, reflecting its dual compartmentalization in folate metabolism.