Creative Enzymes®

# tetrahydrofolate synthase

*Cat. No. EXWM-5737*

*Lot. No.* (See product label)

## Introduction

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| **Description** | In some bacteria, a single protein catalyses both this activity and that of EC 6.3.2.12, dihydrofolate synthase, the combined activity of which leads to the formation of the coenzyme polyglutamated tetrahydropteroate (H4PteGlun), i.e. various tetrahydrofolates (H4folate). In contrast, the activities are located on separate proteins in most eukaryotes studied to date. In Arabidopsis thaliana, this enzyme is present as distinct isoforms in the mitochondria, the cytosol and the chloroplast. Each isoform is encoded by a separate gene, a situation that is unique among eukaryotes. As the affinity of folate-dependent enzymes increases markedly with the number of glutamic residues, the tetrahydropteroyl polyglutamates are the preferred coenzymes of C1 metabolism. (reviewed in). The enzymes from different sources (particularly eukaryotes versus prokaryotes) have different substrate specificities with regard to one-carbon substituents and the number of glutamate residues present on the tetrahydrofolates. |
| **Synonyms** | folylpolyglutamate synthase; folate polyglutamate synthetase; formyltetrahydropteroyldiglutamate synthetase; N10-formyltetrahydropteroyldiglutamate synthetase; folylpoly-γ-glutamate synthase; folylpolyglutamyl synthetase; folylpoly(γ-glutamate) synthase; folylpolyglutamate synthetase; FPGS; tetrahydrofolylpolyglutamate synthase; tetrahydrofolate:L-glutamate γ-ligase (ADP-forming); tetrahydropteroyl-[γ-Glu]n:L-glutamate γ-ligase (ADP-forming) |

## Product Information

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| **Form** | Liquid or lyophilized powder |
| **EC Number** | EC 6.3.2.17 |
| **CAS No.** | 63363-84-8 |
| **Reaction** | ATP + tetrahydropteroyl-[γ-Glu]n + L-glutamate = ADP + phosphate + tetrahydropteroyl-[γ-Glu]n+1 |
| **Notes** | This item requires custom production and lead time is between 5-9 weeks. We can custom produce according to your specifications. |

## Storage and Shipping Information

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| **Storage** | Store it at +4 ℃ for short term. For long term storage, store it at -20 ℃~-80 ℃. |