Creative Enzymes®

Thymidine Phosphorylase from Escherichia coli, Recombinant

Cat. No. NATE-0703

Lot. No. (See product label)

Introduction

Description	An enzyme that catalyzes the reversible conversion of thymidine to thymine. Thymidine phosphorylase is part of the pyrimidine nucleoside salvage pathway. This pathway allows pyrimidine bases to be recycled for nucleotide biosynthesis, while the pentose 1-phosphates are converted to intermediates of the pentose phosphate shunt and glycolysis. The E. coli thymidine phosphorylase shares 40% sequence homology with the human sequence, which has been found to be identical to the angiogenic agent platelet-derived endothelial growth factor. The purified E. coli enzyme has been shown to stimulate blood vessel growth in chick chorioallantoic membrane assays.
Applications	Thymidine phosphorylase has been used in a study to evaluate biomarkers for advanced breast cancer patients treated with capecitabine-based first-line chemotherapy. Thymidine phosphorylase has also been used in a study to investigate implications for the clinical efficacy of nucleoside analogues.
Synonyms	thymidine phosphorylase; pyrimidine phosphorylase; thymidine-orthophosphate deoxyribosyltransferase; animal growth regulators, blood platelet-derived endothelial cell growth factors; blood platelet-derived endothelial cell growth factor; deoxythymidine phosphorylase; gliostatins; pyrimidine deoxynucleoside phosphorylase; thymidine:phosphate deoxy-D-ribosyltransferase; EC 2.4.2.4; 9030-23-3

Product Information

Species	Escherichia coli
Source	E. coli
Form	buffered aqueous solution, Solution in 0.5 M potassium phosphate containing 2 mM uracil, 0.02% sodium azide and bovine serum albumin.
EC Number	EC 2.4.2.4
CAS No.	9030-23-3
Activity	Type I, > 900 units/mL, aseptically filled; Type II, > 500 units/mL.
Concentration	> 900 units/mL
Unit Definition	One unit will convert 1.0 µmole each of thymidine and phosphate to thymine and 2-deoxyribose 1-phosphate per min at pH 7.4 at 25°C.

Storage and Shipping Information

Storage	2-8°C