Creative Enzymes®

tryptophan synthase

Cat. No. EXWM-5014

Lot. No. (See product label)

Introduction

Description A pyridoxal-phosphate protein. The α-subunit catalyses the conversion of 1-C-(indol-3-yl)glycerol 3-phosphate to indole and D-glyceraldehyde 3-phosphate (this reaction was included formerly under EC 4.1.2.8). The indole migrates to the β-subunit where, in the presence of pyridoxal 5'-phosphate, it is combined with L-serine to form L-tryptophan. In some organisms this enzyme is part of a multifunctional protein that also includes one or more of the enzymes EC 2.4.2.18 (anthranilate phosphoribosyltransferase), EC 4.1.1.48 (indole-3-glycerol-phosphate synthase), EC 4.1.3.27 (anthranilate synthase) and EC 5.3.1.24 (phosphoribosylanthranilate isomerase). In thermophilic organisms, where the high temperature enhances diffusion and causes the loss of indole, a protein similar to the β subunit can be found (EC 4.2.1.122). That enzyme cannot combine with the α unit of EC 4.2.1.20 to form a complex.

Synonyms L-tryptophan synthetase; indoleglycerol phosphate aldolase; tryptophan desmolase; tryptophan synthetase; L-serine hydro-lyase (adding indoleglycerol-phosphate); L-serine hydro-lyase [adding 1-C-(indol-3-yl)glycerol 3-phosphate, L-tryptophan and glyceraldehyde-3-phosphate-forming]

Product Information

Form Liquid or lyophilized powder

EC Number EC 4.2.1.20

CAS No. 9014-52-2

Reaction L-serine + 1-C-(indol-3-yl)glycerol 3-phosphate = L-tryptophan + D-glyceraldehyde 3-phosphate + H2O (overall reaction); (1a) 1-C-(indol-3-yl)glycerol 3-phosphate = indole + D-glyceraldehyde 3-phosphate; (1b) L-serine + indole = L-tryptophan + H2O

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

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