

## tryptophan synthase

Cat. No. EXWM-5014

Lot. No. (See product label)

### Introduction

**Description** A pyridoxal-phosphate protein. The  $\alpha$ -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  $\beta$ -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  $\beta$  subunit can be found (EC 4.2.1.122). That enzyme cannot combine with the  $\alpha$  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 + H<sub>2</sub>O (overall reaction); (1a) 1-C-(indol-3-yl)glycerol 3-phosphate = indole + D-glyceraldehyde 3-phosphate; (1b) L-serine + indole = L-tryptophan + H<sub>2</sub>O

**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 °C for short term. For long term storage, store it at -20 °C~-80 °C.