

3-hexulose-6-phosphate synthase

Cat. No. EXWM-4879

Lot. No. (See product label)

Introduction

Description

Requires Mg²⁺ or Mn²⁺ for maximal activity. The enzyme is specific for D-ribulose 5-phosphate as substrate as ribose 5-phosphate, xylulose 5-phosphate, allulose 6-phosphate and fructose 6-phosphate cannot act as substrate. In addition to formaldehyde, the enzyme can also use glycolaldehyde and methylglyoxal. This enzyme, along with EC 5.3.1.27, 6-phospho-3-hexuloisomerase, plays a key role in the ribulose-monophosphate cycle of formaldehyde fixation, which is present in many microorganisms that are capable of utilizing C1-compounds. The hyperthermophilic and anaerobic archaeon *Pyrococcus horikoshii* OT3 constitutively produces a bifunctional enzyme that sequentially catalyses the reactions of this enzyme and EC 5.3.1.27, 6-phospho-3-hexuloisomerase. This enzyme is a member of the orotidine 5'-monophosphate decarboxylase (OMPDC) suprafamily.

Synonyms

D-arabino-3-hexulose 6-phosphate formaldehyde-lyase; 3-hexulosephosphate synthase; 3-hexulose phosphate synthase; HPS

Product Information

Form

Liquid or lyophilized powder

EC Number

EC 4.1.2.43

Reaction

D-arabino-hex-3-ulose 6-phosphate = D-ribulose 5-phosphate + formaldehyde

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.