Creative Enzymes®

# 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 ℃ for short term. For long term storage, store it at -20 ℃~-80 ℃. |