

## 5,6-dimethylbenzimidazole synthase

Cat. No. EXWM-0599

Lot. No. (See product label)

### Introduction

**Description** The enzyme catalyses a complex oxygen-dependent conversion of reduced flavin mononucleotide to form 5,6-dimethylbenzimidazole, the lower ligand of vitamin B12. This conversion involves many sequential steps in two distinct stages, and an alloxan intermediate that acts as a proton donor, a proton acceptor, and a hydride acceptor. The C-2 of 5,6-dimethylbenzimidazole is derived from C-1' of the ribityl group of FMNH<sub>2</sub> and 2-H from the ribityl 1'-pro-S hydrogen. While D-erythrose 4-phosphate has been shown to be one of the byproducts, the nature of the other product(s) has not been verified yet.

**Synonyms** BluB

### Product Information

**Form** Liquid or lyophilized powder

**EC Number** EC 1.13.11.79

**Reaction** FMNH<sub>2</sub> + O<sub>2</sub> = 5,6-dimethylbenzimidazole + D-erythrose 4-phosphate + other product(s)

**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.