

## peptidyl-glutamate 4-carboxylase

Cat. No. EXWM-4840

Lot. No. (See product label)

### Introduction

#### Description

The enzyme can use various vitamin-K derivatives, including menaquinol, but does not contain iron. The mechanism appears to involve the generation of a strong base by oxygenation of vitamin K. It catalyses the post-translational carboxylation of glutamate residues of several proteins of the blood-clotting system. 9-12 glutamate residues are converted to 4-carboxyglutamate (Gla) in a specific domain of the target protein. The 4-pro-S hydrogen of the glutamate residue is removed and there is an inversion of stereochemistry at this position.

#### Synonyms

vitamin K-dependent carboxylase;  $\gamma$ -glutamyl carboxylase; peptidyl-glutamate 4-carboxylase (2-methyl-3-phytyl-1,4-naphthoquinone-epoxidizing)

### Product Information

#### Form

Liquid or lyophilized powder

#### EC Number

EC 4.1.1.90

#### Reaction

peptidyl-4-carboxyglutamate + 2,3-epoxyphyllloquinone + H<sub>2</sub>O = peptidyl-glutamate + CO<sub>2</sub> + O<sub>2</sub> + phylloquinol

#### 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.