

## asparagine synthase (glutamine-hydrolysing)

Cat. No. EXWM-5807

Lot. No. (See product label)

### Introduction

**Description** The enzyme from Escherichia coli has two active sites that are connected by an intramolecular ammonia tunnel. The enzyme catalyses three distinct chemical reactions: glutamine hydrolysis to yield ammonia takes place in the N-terminal domain. The C-terminal active site mediates both the synthesis of a  $\beta$ -aspartyl-AMP intermediate and its subsequent reaction with ammonia. The ammonia released is channeled to the other active site to yield asparagine.

**Synonyms** asparagine synthetase (glutamine-hydrolysing); glutamine-dependent asparagine synthetase; asparagine synthetase B; AS; AS-B

### Product Information

**Form** Liquid or lyophilized powder

**EC Number** EC 6.3.5.4

**CAS No.** 37318-72-2

**Reaction**  $\text{ATP} + \text{L-aspartate} + \text{L-glutamine} + \text{H}_2\text{O} = \text{AMP} + \text{diphosphate} + \text{L-asparagine} + \text{L-glutamate}$  (overall reaction); (1a)  $\text{L-glutamine} + \text{H}_2\text{O} = \text{L-glutamate} + \text{NH}_3$ ; (1b)  $\text{ATP} + \text{L-aspartate} + \text{NH}_3 = \text{AMP} + \text{diphosphate} + \text{L-asparagine}$

**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.