Creative Enzymes®

biotin synthase

Cat. No. EXWM-3364

Lot. No. (See product label)

Introduction

Description The enzyme binds a [4Fe-4S] and a [2Fe-2S] cluster. In every reaction cycle, the enzyme consumes two molecules of AdoMet, each producing 5'-deoxyadenosine and a putative dethiobiotinyl carbon radical. Reaction with another equivalent of AdoMet results in abstraction of the C6 methylene pro-S hydrogen atom from 9-mercaptodethiobiotin, and the resulting carbon radical is quenched via formation of an intramolecular C-S bond, thus closing the biotin thiophane ring. The sulfur donor is believed to be the [2Fe-2S] cluster, which is sacrificed in the process, so that in vitro the reaction is a single turnover. In vivo, the [2Fe-2S] cluster can be reassembled by the Isc or Suf iron-sulfur cluster assembly systems, to allow further catalysis.

Synonyms dethiobiotin:sulfur sulfurtransferase

Product Information

Form Liquid or lyophilized powder

EC Number EC 2.8.1.6

CAS No. 80146-93-6

Reaction dethiobiotin + sulfur-(sulfur carrier) + 2 S-adenosyl-L-methionine + 2 reduced [2Fe-2S] ferredoxin = biotin + (sulfur carrier) + 2 L-methionine + 2 5'-deoxyadenosine + 2 oxidized [2Fe-2S] ferredoxin

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 ℃.