Creative Enzymes®

peptide-methionine (S)-S-oxide reductase

Cat. No. EXWM-1666

Lot. No. (See product label)

Introduction

Description The reaction occurs in the reverse direction to that shown above. The enzyme exhibits high specificity for the reduction of the S-form of L-methionine S-oxide, acting faster on the residue in a peptide than on the free amino acid.On the free amino acid, it can also reduce D-methionine (S)-S-oxide but more slowly. The enzyme plays a role in preventing oxidative-stress damage caused by reactive oxygen species by reducing the oxidized form of methionine back to methionine and thereby reactivating peptides that had been damaged. In some species, e.g. Neisseria meningitidis, both this enzyme and EC 1.8.4.12, peptide-methionine (R)-S-oxide reductase, are found within the same protein whereas, in other species, they are separate proteins. The reaction proceeds via a sulfenic-acid intermediate.

Synonyms MsrA; methionine sulfoxide reductase (ambiguous); methionine sulphoxide reductase A; methionine S-oxide reductase (ambiguous); methionine S-oxide reductase (S-form oxidizing); methionine sulfoxide reductase A; peptide methionine sulfoxide reductase

Product Information

Form Liquid or lyophilized powder

EC Number EC 1.8.4.11

Reaction (1) peptide-L-methionine + thioredoxin disulfide + H2O = peptide-L-methionine (S)-S-oxide + thioredoxin; (2) L-methionine + thioredoxin disulfide + H2O = L-methionine (S)-S-oxide + thioredoxin

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 ℃.