

## 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<br>reductase A; methionine S-oxide reductase (ambiguous); methionine S-oxide<br>reductase (S-form oxidizing); methionine sulfoxide reductase A; peptide<br>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 °C for short term. For long term storage, store it at -20 °C $\sim$ -80 °C.