

Versatile Peroxidase

Mn(II): H₂O₂ oxidoreductase / diarylpropane: O₂, H₂O₂ oxidoreductase

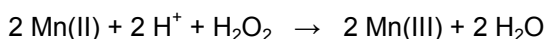
Bjerkandera adusta

Cat.-No.	Amount
EN-203L	1,000 units
EN-203XL	5,000 units

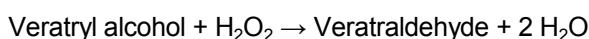
For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Description

Versatile peroxidase (syn. hybrid peroxidase, manganese-lignin peroxidase) is a new ligninolytic enzyme, combining catalytic properties of manganese peroxidase (oxidation of Mn(II)), lignin peroxidase (Mn-independent oxidation of non-phenolic aromatic compounds) and plant peroxidase (oxidation of hydroquinones and substituted phenols). The manganese peroxidase component catalyzes the oxidation of Mn(II) to Mn(III) by H₂O₂. The highly reactive Mn(III) is stabilized via chelation in the presence of dicarboxylic acid.



The lignin peroxidase component catalyzes the oxidation of non-phenolic aromatic rings into aryl cation radicals by H₂O₂. Aryl cation radicals are unstable and undergo various following reactions. A typical example is the oxidation of veratryl alcohol (= 3,4-dimethoxybenzyl alcohol) into veratryl aldehyde (= 3,4-dimethoxybenzaldehyde) via the intermediary formation of veratryl cation and benzyl radicals.



Form

freeze-dried powder, no stabilizing agent added

Unit definition

One unit is defined as the amount of enzyme that oxidizes 1.0 μmole of Mn(II) per minute at pH 4.5 and 25°C.

Reaction conditions

Optimal reaction with Mn(II) at pH 4.5, with veratryl alcohol at pH 3.0, Temperature range 15 - 60 °C

Possible substrates

Mn(II), Veratryl alcohol