

## Alcohol Oxidase

Alcohol:oxygen oxidoreductase  
EC 1.1.3.13

Description:	oxidase which converts primary alcohols into aldehydes with molecular oxygen as electron acceptor
Reaction:	primary alcohol + O <sub>2</sub> $\xrightarrow{\text{AOX}}$ aldehyde + H <sub>2</sub> O <sub>2</sub>
Origin:	<i>Pichia pastoris</i>
Application:	determination of primary alcohols
Activity:	> 700 U/ml (method: ASA Spezialenzyme GmbH)
Specific activity:	> 12 U/mg
Parameters of reaction:	<u>pH</u> optimum 7.5 active within pH 6.0 – 9.5 <u>temperature</u> optimum 25°C active within 20 – 45°C
Inhibitors:	1,10-Phenanthrolin (1 mM, 56% loss of activity) [1] 2-Amino ethanol (1 mM, 70% inhibition) [2] Cd <sup>2+</sup> (1 mM, 48% inhibition) [1] Mo <sup>6+</sup> (1 mM, 94% inhibition) [1] CuSO <sub>4</sub> (1 mM, 86% inhibition) [1]
Order-No.:	2010
Form of delivery:	suspension
Storage:	-20°C
Literature:	[1] Yamada, H.; Shin, K.C.; Kato, N.; Shimizu, S.; Tani, Y.: <i>Purifikation and characterization of alcohol oxidase from Candida 25-A</i> . Agric. Biol. Chem., <b>43</b> , 877, 878 (1979) [2] Patel, R.N.; Hou, C.T.; Laskin, A.I., Derelanko, P.: <i>Microbial oxidation of methanol: properties of crystallized alcohol oxidase from a yeast, Pichia sp.</i> Arch. Biochem. Biophys., <b>210</b> , 481-488 (1981)

- [3] Couderc, R., Baratti, J.:  
*Oxidation of methanol by yeast, Pichia pastoris, Purifikation and Properties of the alcohol oxidase* Agric. Biol. Chem., **44** (10), 2279-2289 (1980)