

Alcohol oxidase (AOX)

Cat. No. AOX-17 Lot. No. (See product label)

SPECIFICATION

Product Overview

Description	AOXs are able to catalyze oxidation of fatty alcohols or aryl-alcohols to form aldehydes. They utilise molecular oxygen but does not require an externally added cofactor, and hydrogen peroxide produced. AOX is a useful tool to catalyze oxidation of fatty alcohols or aryl-alcohols to produce aldehydes.
Applications	1. Normally, the reaction system should include substrate, buffer solution and AOX, and oxygen should be present. 2. All kinds of AOXs corresponding to various optimum reaction conditions, which could be studied individually. 3. High concentration Substrate or product with may inhibit AOX's activity. However, the inhibition can be relieved by batch addition of substrate. 4. The accumulation of H ₂ O ₂ in the system will lead to enzyme inactivation, which can be effectively solved by the use of catalase.
Notes	Never contact with extreme conditions such as: high temperature, high/low pH and high concentration organic solvent.
Storage	Keep 2 years below -20 centigrade.
Advantages	1. High substrate specificity. 2. High conversion. 3. Less by-products. 4. Mild reaction conditions. 5. Environmentally friendly.

GENE INFORMATION

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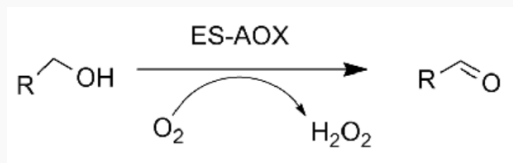
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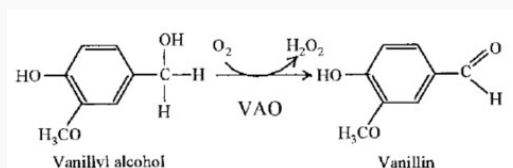
Official Symbol AOX

Synonyms Alcohol oxidase; AOX

Catalytic reaction type



Application Examples



Oxidation of aryl-alcohols

Application Examples

Substrates	Relative activity 1-octanol = 100% (1-alkanol = 100%)	Substrates	Relative activity 1-octanol = 100% (1-alkanol = 100%)
<i>Alkanes</i> C ₈ , C ₁₀ , C ₁₂ , C ₁₄	0.0	<i>Alkanones</i> 2-Dodecanone 3-Dodecanone 2-Hexadecanone 3-Hexadecanone	0.0 0.0 0.0 0.0
<i>Alkenes</i> C ₈ , C ₁₀ , C ₁₂ , C ₁₄	<0.5 (<1)	<i>Alkanic acids</i> C ₈ , C ₁₀ , C ₁₂ , C ₁₄	0.0
<i>1,2-Epoxyalkanes</i> C ₈ , C ₁₀ , C ₁₂ , C ₁₄	<0.6 (<1)	<i>Hydroxy fatty acids</i> 10-Hydroxydecanoic acid 12-Hydroxydodecanoic acid 2-Hydroxydodecanoic acid 2-Hydroxytetradecanoic acid 3-Hydroxytetradecanoic acid 16-Hydroxyhexadecanoic acid 2-Hydroxyhexadecanoic acid 10-Hydroxyoctadecanoic acid	0.0 0.0 0.6 (0.4) 0.0 0.0 4.1 (15.1) 0.0 0.0
<i>Primary alkanols*</i> 1-Octanol	100 (100)	<i>Terpene alcohols</i> Citronellol Geraniol Linalool	1.5 0.6 0.0
<i>Secondary alkanols</i> 2-Butanol 2-Pentanol 2-Hexanol 2-Octanol 2-Decanol 2-Undecanol 2-Dodecanol 2-Tridecanol 2-Hexadecanol 3-Octanol 4-Octanol 3-Dodecanol 6-Dodecanol	0.0 0.0 0.0 4.1 (4.1) 7.7 (10.6) 7.0 (9.6) 9.2 (11.3) 7.6 (11.1) 4.3 (18.3) 0.0 0.0 0.0 0.0	<i>Phenylalkanol</i> Phenylethanol 1-Phenylethanol 2-Phenylethanol 1-Phenylpropan-1-ol 3-Phenylpropan-1-ol 3-Phenylprop-2-ene-1-ol 1-Phenylbutan-1-ol 2-Phenylbutan-1-ol	0.0 0.0 0.0 0.0 41.2 23.1 0.0 0.0
<i>Alkanediols</i> 1,8-Octanediol 1,2-Octanediol 1,10-Decanediol 1,2-Dodecanediol 1,16-Hexadecanediol	39.5 (54.0) 3.4 (3.4) 0.0 11.2 (14.9) 31.2 (38.9) 20.2 (105)		

Oxidation of fatty alcohols

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