

JUST ADD SUBSTRATE!

● ● ● **evozymes**<sup>®</sup>  
catalog `10

## → Alcohol Dehydrogenase Kit

evo-1.1.100

### 12 Alcohol Dehydrogenases – Just add substrate!

#### Kit Description

The evocatal Alcohol Dehydrogenase Kit comprises 12 lyophilized preparations of different alcohol dehydrogenases (ADH) of prokaryotic and eukaryotic origin. It is intended for quick screening for a desired enzyme activity to aid in the selection of the right biocatalyst for the synthesis of your target **chiral alcohol**.

#### Enzyme Specificities

Table 1 provides a general overview of the substrate specificities and relative activities of the enzymes included in this kit (following page). The indicated data give a general overview – activities may vary according to the specific substrates, assays and reaction conditions.

#### Screening Service and Enzyme Requests

##### evocatal offers this screening as a service:

Send us your compound - we will test all our ADHs (kit-enzymes plus a number of additional ones) for best performance on your substrate of interest. For further information please contact us!

Any evozyme of this kit can be requested from evocatal in larger quantities for further investigation or upscaling purposes. evocatal is open for licensing requests. Please contact us for further details.

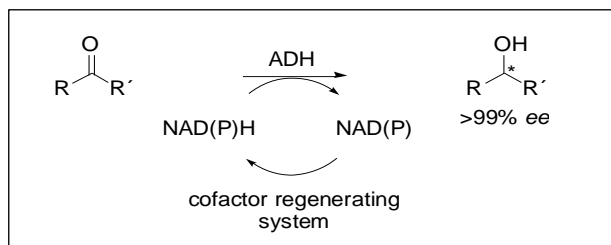


Fig. 1: General reaction catalyzed by alcohol dehydrogenases.

#### Formulation and Storage Conditions

All enzymes in this kit are provided as lyophilized powder in quantities of about 100 mg per sample. The lyophilisates are prepared from buffered solutions. Store at  $-20^{\circ}C$ . Avoid repeated freeze/thaw cycles, storage in "frost-free" freezers is not recommended.

#### Cofactor Regeneration

Cofactors NAD and NADP can be recycled throughout the reaction process (Fig. 1) either by using 2-propanol as co-solvent and co-substrate or by coupling the reaction to a second enzyme, the Glucose Dehydrogenase (evo-1.1.060) which is part of the kit as well. The enzyme re-reduces NAD or NADP using glucose as a hydride donor. Cofactor regeneration reduces the costs of a process significantly. evocatal offers a wide range of solutions in this field – for further information please contact us!

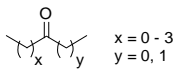

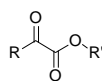
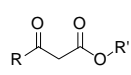

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Tab. 1: Overview of alcohol dehydrogenase activities of the kit enzymes.

(+++ very high activity, ++ high activity, + fair activity, - no activity)

evozyme cat. no:	1.1.010	1.1.020	1.1.030	1.1.040	1.1.130	1.1.140	1.1.190 <sup>2</sup>	1.1.200	1.1.210	1.1.250	1.1.260	1.1.270
<b>selectivity:</b>	(R/S) <sup>1</sup>	(R/S) <sup>1</sup>	(S)	(R/S) <sup>1</sup>	(R)	(S)	(R)	(R)	(S)	(S)	(R/S) <sup>1</sup>	(R)
<b>cofactor:</b>	NAD	NAD	NAD	NAD	NAD	NAD	NADP	NAD	NAD	NADP	NADP	NADP
 x = 0-3 y = 0, 1 <b>aliphatic ketones</b>	++	++	++	+	-	-	-	+++	-	+	++	++
 <b>acetophenone and derivatives</b>	-	+	++	-	-	-	-	++	-	-	-	++
 <b>α-ketoesters and derivatives</b>	+++	++	+	-	+++	+++	-	++	+	+	-	-
 <b>β-ketoesters and derivatives</b>	+++	++	+	-	-	-	-	+++	+	++	-	+++
$R-CHO$ R = aliphatic side chain <b>aldehydes</b>	-	++	-	+++	-	-	+++	-	++	+	-	+
 x = 0, 1 <b>cyclic ketones</b>	+	+	-	-	-	-	-	++	+	-	++	++

<sup>1</sup>substrate dependent (R)- or (S)-selective

<sup>2</sup>evo-1.1.190 prefers (R)-glyceraldehyde over (S)-glyceraldehyde.

for orders, screening requests or further details please contact us:

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