

**CERTIFICATE OF ANALYSIS**

<b>Cellulase "Onozuka" R-10 from Trichoderma viride</b>	<b>Cat.No.:</b> 16419
<b>E.C. 3.2.1.4</b>	<b>Contr.No.:</b> 160669

Parameter	Method	Specification	Result
<b>Molecular weight</b>		ca. 52 000	
<b>Appearance</b>		beige lyophilisate	corresponds
<b>Activities (U/mg)</b>	Cellulase	ca. 1	1.0
	Hemicellulase	ca. 1	corresponds
	Protease (DMC)	ca. 0.01	corresponds
	$\alpha$ -Amylase	ca. 0.8	corresponds
	Pectinase	ca. 0.4	corresponds
<b>Minimum shelf life</b>			07.07.2019
<b>Storage (°C)</b>			+2 to +8

**Unit definitions**

**Cellulase**

1 unit is the amount of enzymatic activity which catalyzes the liberation of 1  $\mu$ mol glucose from sodium carboxymethyl cellulose per minute at 40°C, pH 4.5.

**Hemicellulase**

1 unit is the amount of enzymatic activity which liberates 1  $\mu$ mol of reducing groups from beechwood xylan per hour at 37°C, pH 5.5, calculated as xylose.

**Protease**

1 DMC-unit is that amount of enzymatic activity which catalyzes the cleavage of 1  $\mu$ equivalent peptide bond from dimethylcasein per minute at 25°C, pH 7.0, expressed in terms of the appearance of new terminal amino groups.

**$\alpha$ -Amylase**

1 unit is that amount of enzymatic activity which catalyzes the liberation of 1  $\mu$ equivalent of reducing groups from soluble starch (Zulkowsky) per minute at 25°C, pH 6.0, calculated as maltose.

**Pectinase**

1 unit is that amount of enzymatic activity which catalyzes the liberation of 1  $\mu$ mol of reducing groups from pectic acid per minute at 25°C, pH 4.5, calculated as D-galacturonic acid.

<p><b>We do not guarantee that the product can be used for a special application.</b>  <b>This document does not release you from performing the standard control upon receipt of incoming goods.</b></p>
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**SERVA Electrophoresis GmbH**  
**Quality Control**

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Daniela Lux-Helmstetter

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