

## Recombinant Enzyme Product Specification Sheet

<b>Cat. No.:</b>	PRO-E0027	
<b>LOT:</b>	2008-0027	
<b>Activity:</b>	β-Mannosidase	
<b>Synonyms:</b>	Mannanase; mannase; β-D-mannosidase; β-mannoside mannohydrolase; exo-β-D-mannanase; β-D-mannoside mannohydrolase	
<b>Nomenclature:</b>	Mannosidase 5A belongs to GH family 5 (member of clan GH-A)	
<b>Source organism:</b>	<i>Cellvibrio mixtus</i>	
<b>Enzyme Commission No.:</b>	<a href="#">3.2.1.25</a>	
<b>Activity:</b>	120 U/mL	} (37°C; pH 7; <i>p</i> -nitrophenyl-β-mannopyranoside)
<b>Specific activity:</b>	40 U/mg	
<b>Purity:</b>	>95% as judged by SDS-PAGE	
<b>Form and storage:</b>	Supplied in 3.2 M ammonium sulphate, store at 4°C (shipped at room temperature)	
<b>pH optimum:</b>	7 (stable from 6.5 – 7.5)	
<b>Temperature optimum:</b>	37°C (stable up to 40°C)	
<b>[Protein]:</b>	3 mg/mL	
<b>Sequence length:</b>	432 amino acids ( <a href="#">view sequence</a> )	
<b>Accession No.</b>	<a href="#">AAS19695</a>	
<b>Molecular weight:</b>	50178.9 Da	(theoretical)
	~ 50300 Da	(observed by SDS-PAGE)
	-	(observed by mass spectrometry)
<b>Biological function:</b>	Hydrolysis of terminal, non-reducing β-D-mannose residues in β-D-mannosides	
<b>Potential application(s):</b>	<a href="#">Biomass conversion</a> , <a href="#">carbohydrate research</a>	
<b>Comments:</b>	PDB: <a href="#">1UUQ</a>	
<b>Usage:</b>	Agitate bottle sufficiently to fully homogenise enzyme precipitate before use	

**Assay:** One unit is defined as the amount of enzyme required to release 1  $\mu\text{mol}$  of *p*-nitrophenol per hour from *p*-nitrophenyl- $\beta$ -mannopyranoside (1 mM in the assay) in 50 mM phosphate buffer, pH 7.0, at 37°C, containing 1 mg/ml of BSA

**Primary sequence:**

MVAESNSAVAPTANVATSPAHEHFVRVNGGHFELQGKPYVITGVNMWYAAYLGAPEVGDRLAKEL  
DNLKAIGVNNLRVLAVSEKSEINSAVKPAVTNGFGNYDETLQGLDYLLVELAKRDMTVVLYFNFWQ  
WSSGMTQYMAWIEGEPVQDPNVTNEWEAFMAKSASFYRSEKAQQEYRKTLEKIIITRVNSINGKAYVDD  
ATIMSWQLANEPRPGNSQTTAEKQIYIDWVHAAAAYIKTLDAHHLVSSGSEGEMGSVNDMQVFIDAH  
ATPDI DYLTYHMWIRNWSWFDKTKPAETWPSAWEKAQNYMRAHIDVAKQLNKPLVLEEFGLDRDMGSY  
AMDSTTEYRDNYFRGVFELMLASLEQGEPSAGYNIWAWNGYGRTRANYWWQEGDDFMGDPPQEEQGM  
YGVFDTDTSTIAIMKEFNARFQPK

**Literature:**

1. [Dias et al. \(2004\) J. Biol. Chem. 279, 25517-25526](#)
2. [Vincent et al. \(2004\) ChemBioChem 5, 1596-1599](#)