

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0404	add this product to cart
LOT:	2009-0404	
Activity:	Trehalose-6-phosphate hydrolase	view other trehalose-6-phosphate hydrolases
Synonyms:	α,α-Trehalose-6-phosphate phosphoglucohydrolase; α,α-phosphotrehalase; phosphotrehalase; alpha,alpha-trehalose-6-phosphate phosphoglucohydrolase; alpha,alpha-phosphotrehalase	
Nomenclature:	CAZy [GH13 subf29, glycoside hydrolase family 13 subfamily 29, member of clan GH-H], TreA, TreC, BSU07810, O34517	
Source organism:	<i>Bacillus subtilis</i> subsp. <i>subtilis</i> str. 168	
Enzyme Commission No.:	3.2.1.93	
Activity:	556.3 U/mL	} (37°C; pH 6.0; 5 mM pNP-α-glucoside)
Specific activity:	78.3 U/mg	
Purity:	> 95 % as judged by SDS-PAGE	
Form and storage:	Supplied in 3.2 M ammonium sulphate, store at 4°C (shipped at room temperature)	
pH optimum:	~ 6.0	
Temperature optimum:	≥ 37°C	
[Protein]:	7.11 mg/mL	
Sequence length:	561 amino acids (view sequence)	
Accession No.:	P39795 , NP_388662.1 , BG11010 , BSUB224308:BSU0781-MON	
Molecular weight:	68727.7 Da	(theoretical)
	~ 70000 Da	(observed by SDS-PAGE)
	-	(observed by mass spectrometry)
Biological function:	α,α-Trehalose 6-phosphate + H ₂ O ⇌ D-glucose + D-glucose 6-phosphate	
Potential application(s):	Carbohydrate research , fundamental research	
Comments:	This is a cytoplasmic enzyme	
Usage:	Agitate vial sufficiently to fully homogenise enzyme precipitate before use	

Assay: One unit is defined as the amount of enzyme required to release 1 μmol of *p*NP per minute from *p*NP- α -D-glucopyranoside (5 mM) in 50 mM sodium acetate buffer, pH 6.0, containing 1 mg/mL BSA and 1 M sodium chloride, at 37°C, and using an extinction coefficient of 18000 $\text{M}^{-1} \text{cm}^{-1}$. The enzyme should be diluted in 1 mg/mL BSA

Primary sequence:

MKTEQTPWKKAVVYQIYPKSFNDTTGNGVGDNLNGIIEKLDYLKTLQVDVLWLTPIYDSPQHONGYDIRDYYSIY
PEYGTMEDFERLVSEAHKRDLKVVMDLVVNHTSTEHKWFREAISSIDSPYRDFYIWKKPQENGSPPTNWESKFGG
SAWELDEASGQYYLHFLFDVTQADLNWENEEVRKHVYDMMHFWFEKIDGFRLDVINLISKDQRFNPAAEEGDGRSF
YTDGPRVHEFLHEMNEKVFSHYDSMTVGEMSSSTTVDHCI RYTNPDKELDMTFSFHHLKVDYPNGEKWALAPDFD
LKLKEILSDWQTGMHAGGGWNALFWCNHDQPRVVSRYGDDGAYRVKSAKMLATAIHMMQGTPIYQGEELGMTNP
KFTDISSYRDVESLNMYHAFKEKGMADQDITAILQAKSRDNSRTPVQWDATENGGFTTGTPIPVAGNYREINAE
AALRDQNSVFYHYQKLIQIRKMYDIVTEGTYEIIAKDDPNIFAYLRHGSNEKLLVINNFYGTAAFTLPDSLAPD
EWKAEVLLTNDEAREGLQNMTLRPYESIVYRLTKPC

Literature: 1. Helfert *et al.* (1995) *Mol. Microbiol.* **16**, 111-120