

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0253
LOT:	2008-0253
Activity:	Hyaluronate lyase
Synonyms:	Hyaluronidase; glucuronoglycosaminoglycan lyase; spreading factor; mucinase
Nomenclature:	CAZY [PL16, polysaccharide lyase family 16 (formerly known as glycoside hydrolase family GH69)], HylP1 , hylP1 , SPy0701
Source organism:	<i>Streptococcus pyogenes M1 GAS SF370</i>
Enzyme Commission No.:	4.2.2.1
Activity:	208 U/mL
Specific activity:	32.1 U/mg
	} (37°C; pH 6.0; 1 mg/mL hyaluronic acid)
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 (stable up to 37°C)
[Protein]:	6.48 mg/mL
Sequence length:	337 amino acids (view sequence)
Accession No.:	Q9A0M7 , NP_268936.1 , AAK33657 , SPYO160490:SPY0701-MON
Molecular weight:	38447.1 Da (theoretical)
	~ 38000 Da (observed by SDS-PAGE)
	- (observed by mass spectrometry)
Biological function:	HylP1 is a phage tail-fibre protein responsible for the digestion of the <i>S. pyogenes</i> hyaluronan capsule during phage infection. It is a key bacteriophage-encoded virulence factor
Potential application(s):	Carbohydrate research , fundamental research
Comments:	Phage associated. Active solely against hyaluronan with no activity against chondroitin 4-sulfate and chondroitin 6-sulfate
Usage:	Agitate bottle sufficiently to fully homogenise enzyme precipitate before use

Assay:

One unit is defined as the amount of enzyme required to release 1 μmol of 4,5-unsaturated product per minute from 1 mg/mL hyaluronic acid in 50 mM sodium acetate buffer, pH 6.0, at 37°C, as measured at 232 nm

Primary sequence:

MSENIPLRVQFKRMKAAEWARSDVILLESSEIGFETDTGFARAGDGHNRFSDLGYISPLDYNLLTNKPNID
GLATKVETAQKLQKADKETVYTKAESKQELDKKLNKGGVMTGQLKFKPAATVAYSSSTGGAVNIDLSS
TRGAGVVVYSDNDTSDGPLMSLRTGKETFNQSALFVDYKGTNAVNIAMRQPTTPNFSSALNITSGNENG
SAMQLRGSEKALGTLKITHENPSIGADYDKNAAALSIDIVKKTNGAGTAAQGIYINSTSGTTGKLLRIRN
LSDDKFYVKSDDGGFYAKETSQIDGNLKLKDP TANDHAATKAYVDKAI SELKKLILKK

Literature:

1. [Smith et al. \(2005\) Proc. Natl. Acad. Sci. USA 102, 17652-17657](#)