

Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0267
LOT:	2009-0267
Activity:	Hyaluronate lyase
Synonyms:	Hyaluronidase; glucuronoglycosaminoglycan lyase; spreading factor; mucinase
Nomenclature:	CAZY [PL16, polysaccharide lyase family 16 (formerly known as glycoside hydrolase family GH69)], HylP3 , hylP3 , Spy1445
Source organism:	<i>Streptococcus pyogenes M1 GAS SF370</i>
Enzyme Commission No.:	4.2.2.1
Activity:	13 U/mL
Specific activity:	6.1 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:	37.0°C (stable up to 37.0°C)
[Protein]:	2.14 mg/mL
Sequence length:	370 amino acids (view sequence)
Accession No.:	Q99Z19 , NP_269528.1 , AAK34249 , SPYO160490:SPY1445-MON
Molecular weight:	41780.0 Da (theoretical)
	~ 42000 Da (observed by SDS-PAGE)
	- (observed by mass spectrometry)
Biological function:	HylP3 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:

MAENIPLRVQFKRMKAAEWASSDVVLEGEIGFETDTGFAKFGDGQNTFSKLYLTGPKGPKGDTGLQ GK
TGGTGSRGPAGKPGTTDYDQLQNKPD LGAFAQKEETNSKITKLESSKADKNAVY LKAESNAKLDEKLN LK
GGVMTGQLQFKPNSGIKPSSSVGGAINIDMSKSEGAAMVMYTNKDTTDGPLMILRSNKDTFDQSVQFVDY
KGTTNAVNIVMRQPTTPNFSSALNITSANEGGSAMQIRGVEKALGTLKI THENPSVDKEYDENAAAALSID
IVKKQKGGKGTAAQGIYINSTSGTAGKMLRIRNKNKDKFYVGPDGFWSCASSIVDGNLTVKDPTSGKHA
ATKDYVDEKIAELKKLILKK

Literature:

1. Ferretti *et al.* (2001) *PNAS* **98**, 4658-4663