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Recombinant Enzyme Product Specification Sheet

Cat. No.:	PRO-E0254
LOT:	2008-0254
Activity:	Hyaluronate lyase
Synonyms:	Hyaluronidase; glucuronoglycosaminoglycan lyase; spreading factor; mucinase
Nomenclature:	CAZY [PL8, polysaccharide lyase family 8], SCO5534, SC1C2.15
Source organism:	*Streptomyces coelicolor A3(2)*
Enzyme Commission No.:	4.2.2.1
Activity:	4.8 U/mL (37°C; pH 6.0; 1 mg/mL hyaluronic acid)
Specific activity:	8.1 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:	47°C (stable up to 37°C)
[Protein]:	0.59 mg/mL
Sequence length:	744 amino acids (view sequence)
Accession No.:	O86516, NP_629668.1, SCOE100226:SCO5534-MON
Molecular weight:	82914.2 Da (theoretical)
	~ 83000 Da (observed by SDS-PAGE)
	- (observed by mass spectrometry)
Biological function:	Biological recycling of hyaluronic acid
Potential application(s):	Carbohydrate research, fundamental research
Comments:	This enzyme is active against hyaluronan, chondroitin-4 sulphate and chondroitin-6 sulphate and comprises two domains – an N-terminal catalytic domain, and a C-terminal domain of as yet unclear function
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

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acid in 50 mM sodium acetate buffer, pH 6.0, at 37°C, as measured at 232 nm

Primary sequence:

ATADPYDALRRRWLGITLGTGYDPAAEPYASRLAETGERAREHRATMAPTPTSLWPGHPFDPPAGITFAYGRLWT
MTEAYVQEGTGATGDPALLADILRGLDHLSATVYHPATTRYGNWWEWQIGSPRLLMDITAALYDHLGADRVAAAC
AAVDHFVPDAMLGAYTGTSTGANRVDLCRSVALRGVLGRAPAKIALARDALSPVFPYVTKGDGLYADGSFVQHTW
VAYSGTYGQVMLDGLGRLFTLLAGSEWEVTDPGRQLVLDSVEHAYAPLIHDGLVMDTVNGRAISRGYLKSDDLHV
MRSDHFHGQQLIAAMAVLAGGASNAERERWHARIKGWIERDTVTPVLTAPQFPVADLTRLHAIADAPGEAAPEPV
GHHLFAAMDRAVHRRPAFTAGLAMASDRIAHYECGNGENPRGWHTGAGMLTWWANGTRADQYTDWFWPTVDWYRL
PGTTVSTKRLADRAGGEWGAPKPDVRWVGGATDGEYAAVGQHLKGLGSTLEARKSWFFLDDAVVCLGAGITCADG
VPVETVVDNRNLGEGGTQALVRGRHWAHLEGHGGWIVPGGALRTLREDRTGAWSDINTTSTTERRTRRWQTLWLD
HGTDPAGADYVYTVMPGASRAALARRAADRHWLTVLANDDRRQAVSVPSLGLTAANFWQAGTAGPLTTTAGASVL
VRRRGRTATLRVSEPPRTGEALEIVWDHPVGAVLRADETVEILATGRRLHLRVTPGVVCTTHECEVTLS

Literature:

1. Bentley *et al.* (2002) *Nature* **417**, 141-147