CREATIVE BIOMART®
Microbe

Recombinant Pyrococcus abysii RNASEH2 protein

SPECIFICATION

Cat.No.	RNASEH2-01
Species	Pyrococcus abysii
Product Name	Recombinant Pyrococcus abysii RNASEH2 protein
Product Overview	Recombinant Pyrococcus abysii RNASEH2 was expressed in E. coli.
Description	RNase H2 Enzyme is a recombinant endoribonuclease that binds to RNA-DNA duplexes, and cleaves the RNA strand leaving a 5'phosphate and a 3'hydroxyl group. The RNase H2 enzyme differs from RNase H1 in that RNase H2 will cleave at a single ribonucleotide residue embedded within a heteroduplex. RNase H2 will not cleave single-stranded RNA.
Source	E. coli
Molecular Mass	27,573.6 daltons
Notes	Enzyme requirements: • monovalent cation: 50-75 mM K+/Na+ or 32 mM NH4+ • divalent cation: 2-8 mM Mg++, 0.6-1.5 mM Mn++, or 0.5-0.75 mM Co++ • pH 8.0-8.4 • nonionic detergent: 0.01% Triton X100 or 0.01% Tween 20 Temperature: RNase H2 activity is optimal around 75 centigrade, with significant activity retained with temperatures as low as 50 centigrade. It retains maximal catalytic activity at 95 centigrade for over 30 minutes. Substrates: RNA-DNA duplex with as little as a single ribose-base embedded in a DNA strand. If the substrate contains a stretch of ribose bases, cleavage will occur at multiple sites within the RNA containing strand. In the case of a single RNA containing duplex, a 3'OH and a 5'phosphate containing oligonucleotides are produced. Example S-rC 14-1-15 (RNA base lowercase) 5' CTCGTGAGGTGATGcAGGAGATGGGAGGCG 3'

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com
Fax: 1-631-938-8127
Address: 45-1 Ramsey Road, Shirley, NY 11967, USA

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	3’ GAGCACTCCACTACGTCCTCTACCCTCCGC 5’ Cleavage products 5’ CTCGTGAGGTGATG-OH 3’ /5Phos/cAGGAGATGGGAGGCG 3’ 5’CGCCTCCCATCTCCTGCATCACCTCACGAG 3’ Maximal cleavage efficiency requires the positioning of the RNA base to be 8-10 bases in from the 5’ end, and 4 or more bases from the 3’ end.
Storage	Storage at -20 centigrade in low protein binding tubes.
Unit Definition	One enzymatic unit is the amount of enzyme needed to cleave 1 nmole of the DNA-RNA-DNA heteroduplex substrate S-rC14-1-15 per minute at 70 centigrade in Mg++ Cleavage Buffer (10 mM Tris-HCl pH 8.0, 50 mM NaCl, 4 mM MgCl2, 10µg/mL BSA) 5’ CTCGTGAGGTGATGcAGGAGATGGGAGGCG 3’ 3’ GAGCACTCCACTACGTCCTCTACCCTCCGC 5’

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