

HL-Exol

ArcticZymes presents HL-Exol, a low temperature exonuclease. HL-Exol will enable treatment of sensitive samples, and inspire novel technology development. HL-Exol acts specifically to degrade ssDNA in the 3'- to 5' direction, producing 5'- mononucleotides as a byproduct.

Source

Recombinantly produced in an *E. coli* strain expressing the HL-ExoI gene originating from an Arctic marine bacterium.

Specificity

HL-ExoI is a 3'-5' exonuclease, specific for single stranded DNA.

Activity and inactivation

HL-ExoI is active at temperatures $\geq 25^{\circ}\text{C}$, and inactivated by 1 min incubation at 80°C , or 15 min at 60°C .

Unit definition

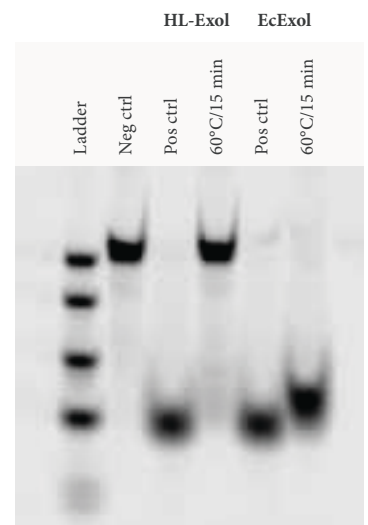
One unit catalyses the release of 10 nmol of acid soluble nucleotides in 30 min at 25°C . Reaction buffer: 20 mM Tris-HCl pH 7.5 at 25°C , 200 mM NaCl, 20 mM MgCl_2 , 1 mM DTT, 0.01% Triton X-100, 2.5% glycerol and ^3H -dATP-labelled DNA (25 ng/ μl).

Storage buffer

10 mM Tris-HCl pH 7.5 (at 25°C), 200 mM NaCl, 10 mM MgCl_2 , 1 mM DTT, 0.01% (v/v) Triton X-100, 50% (v/v) Glycerol.

Stability

The enzyme is stable at -20°C for > 1 year in the supplied storage buffer. The enzyme tolerates a minimum of five freeze-thaw cycles (-80°C) without loss of activity.



Comparison of inactivation properties of HL-Exol and a commercial *E. coli* Exol (EcExol). After incubation for 10 min the nucleases were inactivated at 60°C for 15 min. The samples were then added a Fam labeled 20-mer and incubated for 30 min before visualization on a urea-PAGE gel.

Quality control

ssDNA endonuclease activity

100 U HL-ExoI was incubated with M13 ssDNA (0.5 µg) for 4 hours at 37°C. Agarose gel electrophoresis did not reveal any visible signs of ssDNA degradation.

dsDNA endonuclease activity

200 U HL-ExoI was incubated with a supercoiled plasmid (1 µg) for 4 hours at 37°C. Agarose gel electrophoresis did not reveal any transformation of closed circular DNA to nicked DNA.

Purity

The enzyme is purified to apparent homogeneity.

ArcticZymes is dedicated to the quality of our products.

We manufacture all our products at our ISO 13485 certified facility in Norway.

Ordering information

Product name	Catalogue #	Concentration	Size	Units
HL-ExoI	70100-201	20 U/µl	125 µl	2.5 kU
HL-ExoI (Std. Bulk)	70100-150	20 U/µl	2.5 ml	50 kU
HL-ExoI (custom)	70100-100	Contract	Contract	Contract

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