ArcticZymes®
Enzyme innovations from the Arctic

IsoPol™ SD+

IsoPol™ SD+ is the second in the ArcticZymes family of polymerases established to serve the genomic and proteomic market segment.

IsoPol™ SD+ is active at ambient temperatures. It has stronger strand displacement and higher salt tolerance, compared to similar polymerases and can be heat inactivated at temperatures above 50°C.

Features

IsoPol™ SD+ exhibits polymerase activity and lacks 3'-5' exonuclease activity. The 5'-3' exonuclease domain is truncated, thus the enzyme lacks 5'-3' exonuclease activity.

Optimal reaction conditions

IsoPol™ SD+ exhibits a specific activity of 7 500 U/mg. Optimal performance is achieved in a pH 8.5 buffer supplemented with 4-6 mM $MgCl_2$ and 100-350 mM salt (NaCl or KCl). Temperature optimum is at 37°C.

Inactivation

Inactivation is achieved by incubating the enzyme at 50°C for 20 minutes. It is also possible to inactivate the polymerase by addition of EDTA.

Unit definition

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid insoluble material in 30 minutes at 37°C.

Strand-displacement activity

IsoPol™ SD+ exhibits improved strand-displacement activity compared to other similar DNA Polymerases at 25°C and 37°C.

Storage and stability

The enzyme is stable at -20°C for 2 years in the supplied storage buffer. Storage of the enzyme at 200 mM NaCl is recommended for high concentration samples.

Quality control

ssDNA endonuclease activity
25 U IsoPol™ SD⁺ 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
25 U IsoPol™ SD⁺ 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.

ArcticZymes is dedicated to the quality of our products.
IsoPol™ SD⁺ is manufactured at our ISO 13485 certified facility in Norway.

Additional data and information
We are pleased to provide data and information relating to IsoPol™ SD⁺. Available data includes; buffer storage conditions, optimal salt, Mg^{2+}, pH, processivity, activity, and strand displacement data.

Ordering information

Product name	Catalogue #	Concentration	Size	Units
IsoPol™ SD⁺	71501-201	5 U/µl	40 µl	200 U
IsoPol™ SD⁺	71501-100	According to agreement	According to agreement	According to agreement

Your OEM partner to deliver novel solutions for genomics and proteomics

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