

# IsoPol™ SD+

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

IsoPol<sup>™</sup> SD<sup>+</sup> 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<sup>™</sup> SD<sup>+</sup> 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 $^{\infty}$  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  $\mu$ g) for 4 hours at 37°C. Agarose gel electrophoresis did not reveal any visible signs of ssDNA degradation.

### dsDNA endonuclease activity

25 U IsoPol $^{\infty}$  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<sup>™</sup> SD<sup>+</sup> 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 $^{\text{m}}$  SD $^{\text{+}}$ . 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 μΙ	200 U
IsoPol™ SD+	71501-100	According to agreement	According to agreement	According to agreement

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