



ZYMO RESEARCH

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PureRec Duplex-Specific Nuclease (DSN)

Recombinant, RNase-free & Protease-free

Description:

PureRec Duplex-Specific Nuclease (DSN) is an endonuclease that selectively digests double-stranded DNA (dsDNA) and DNA in DNA-RNA hybrids with virtually no activity towards single-stranded DNA (ssDNA) or RNA. It can distinguish between perfectly matched and non-matched short DNA duplexes. PureRec DSN is overexpressed and extensively purified from a non-animal source and is free of non-specific nucleases or RNases.

Key Features:

- **Highest Specificity:** Selectively digests dsDNA and DNA in DNA-RNA hybrids; virtually inactive towards ssDNA or RNA.
- **Premium Purity:** RNase-free, protease-free, and animal-free.
- **Thermostable:** Able to withstand high temperatures without denaturation or loss in activity.

Storage:

For long-term storage, store at -20 °C.

General Applications:

- Remove gDNA and DNA in DNA:RNA hybrids for protein or RNA preps.
- Reduce abundant rRNA and globin transcripts to enhance NGS libraries.
- Achieve precise SNP detection with minimal off-target effects.
- Enhance signal amplification for accurate virus detection.
- Improve miRNA and biomarker detection.

Components:

Cat.#	Size	10X DSN Digestion Buffer	2X DSN Stop Solution
E1020-200	200 U	5 ml	50 ml
E1020-1000	1000 U	5 ml	50 ml

Unit Definition:

One Kunitz unit causes an increase in absorbance at 260 nm of 0.001 per minute per ml, at 25°C, pH 7.15, when acting on calf thymus DNA.

DSN Reaction Set Up:

The following guidelines can be used:

50 – 500 ng DNA	X μ l
DNase/RNase-free Water	Y μ l
DSN (1 U/ μ l)	1 μ l
10X DSN Digestion Buffer	1 μ l
Total Volume	10 μ l

Incubate the reaction at 60°C for 5 minutes.

Note: The amount of enzyme and incubation time depends on sample complexity and needs. Incubation temperature can be adjusted between 25-70°C, with an optimal temperature of 60°C.

Inactivation:

Add the 2X DSN Stop Solution to the reaction to a final concentration of 1X and incubate at reaction temperature for 5 minutes.

Precautions and Disclaimer:

This product is for R&D use only.

Technical Support:

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