EPICENTRE®
Biotechnologies

Baseline-ZERO™ DNase

Cat. Nos. ***DB0711K*** *and* ***DB0715K***

Baseline-ZERO™ DNase is ideal for use when you need to be certain that **ZERO** DNA remains. Baseline-ZERO DNase hydrolyzes both double-stranded (ds) and single-stranded (ss) DNA to mononucleotides with the highest efficiency (see Figure 1). In the presence of Mg^{++}, cleavage of each strand of a dsDNA substrate proceeds independently.[1]

EPICENTRE's Baseline-ZERO™ DNase is available in 1,000 and 5,000 MBU sizes and is suitable for use in each of the following applications:

- Complete removal of DNA from RNA prior to RT-PCR.[2]
- Removal of ssDNA and dsDNA from viral RNA.
- Elimination of genomic DNA from RNA for microinjection and transfection experiments.
- Elimination of the DNA template following *in vitro* RNA synthesis with T7, T3 or SP6 Phage RNA Polymerases.

Baseline-ZERO DNase is provided with both a 10X Reaction Buffer and a 10X Stop Solution.

Baseline-ZERO DNase must be inactivated prior to the addition of Baseline-ZERO DNase-treated RNA to reverse transcription reactions. To inactivate the enzyme, incubate the completed reaction at 65°C for 10 minutes in the presence of 1X Stop Solution.

Product Specifications

Storage: Store only at -20°C in a freezer without a defrost cycle.

Storage Buffer: Baseline-ZERO DNase is supplied in a 50% glycerol solution containing 50 mM Tris-HCl (pH 7.5), 10 mM $CaCl_2$, 10 mM $MgCl_2$ and 0.1% Triton® X-100.

Unit Definition: One Molecular Biology Unit (MBU) of Baseline-ZERO DNase produces an increase in the A_{260} of a solution of dsDNA, of 0.001 per minute at 25°C. Functionally, 1 MBU completely digests 1 µg of pUC19 DNA to mononucleotides in 10 minutes at 37°C.

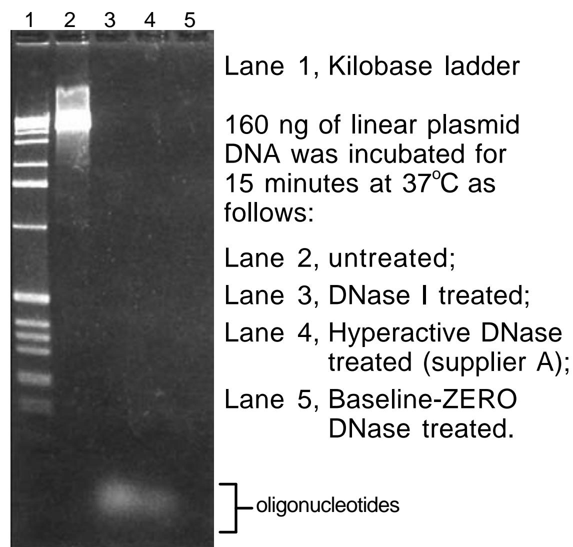
10X Baseline-ZERO™ DNase Reaction Buffer: is 100 mM Tris HCl (pH 7.5), 25 mM $MgCl_2$ and 5 mM $CaCl_2$.

10X Baseline-ZERO™ DNase Stop Solution: is 30 mM EDTA.

Quality Control: Baseline-ZERO DNase is assayed for its ability to remove intact DNA and oligonucleotides from a preparation of linear plasmid (see Figure 1).

Contaminating Activity Assays: Baseline-ZERO DNase is free of detectable RNase activities as assayed by PAGE analysis of 1 µg of a synthetic RNA transcript following an overnight incubation with enough Baseline-ZERO DNase to completely digest 1000 µg of DNA.

Figure 1 Baseline-ZERO DNase removes small oligonucleotides during DNase treatment.



Lane 1, Kilobase ladder

160 ng of linear plasmid DNA was incubated for 15 minutes at 37°C as follows:

Lane 2, untreated;
Lane 3, DNase I treated;
Lane 4, Hyperactive DNase treated (supplier A);
Lane 5, Baseline-ZERO DNase treated.

Only Baseline-ZERO DNase removes the small residual oligonucleotides visible at the bottom of the gel.

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References:

1. Sambrook, J. *et al*., (1989) in: *Molecular Cloning: A Laboratory Manual (2nd ed.)*, Cold Spring Harbor Laboratory Press, New York.
2. Kienzle, N. *et al*., (1996) *BioTechniques* **20**, 612.

Related Products: The following products are also available:

- RNase-Free DNase I
- RiboScribe™ RNA Probe Synthesis Kits
- T7, T3 and SP6 Phage RNA Polymerases
- MasterAmp™ RT-PCR Kits
- Plasmid-Safe™ ATP-Dependent DNase
- Exonuclease I
- Exonuclease III
- Exonuclease VII
- T5 Exonuclease
- T4 Endonuclease V
- Lambda Exonuclease
- Mung Bean Nuclease
- OmniCleave™ Endonuclease
- RecBCD Nuclease
- RecJ Exonuclease

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