



Exonuclease III

Manual

Catalog #	3412	3415
Package Size	10,000 units	25,000 units
Concentration	100 units/ μ l	



Important!

-20°C Storage Required

- * Immediately inspect packages
- * Freeze upon receipt



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Description:

Intact Genomics (ig[®]) Exonuclease III (Exo III) is an exodeoxyribonuclease that digests one strand of duplex DNA from a blunt end, 5' overhang or nick (1, 2). The enzyme acts in a 3'→5' direction producing stretches of single-stranded DNA (1, 2). Exo III is not active on 3' overhangs of 4 or more bases in length and ssDNA (2). The enzyme has also RNase H, 3'-DNA phosphatase, and apurinic DNA endonuclease activities (2, 3). Exo III digestions proceed at a uniform rate yielding predictable and reproducible results. However, the observed rate of nucleotide excision can vary depending on the individual characteristics of the reaction mix such as reaction temperature, ionic strength, template base content, template helical structure, and enzyme-to-DNA ratios (3-5).

Applications:

- 3' → 5' exonuclease
- Production of unidirectional nested deletions
- Production of intermediates for site-directed mutagenesis
- Preparation of strand-specific probes
- Preparation of single-stranded substrates for dideoxy sequencing

Protein Purity:

The physical purity of this enzyme is ≥99% as assessed by SDS-PAGE with Coomassie[®] blue staining (see figure).

Product Source:

E. coli BL21 (DE3) strain expressing *E. coli* Exonuclease III gene.

Product Components:

- Exonuclease III
- 10x Exonuclease III reaction buffer

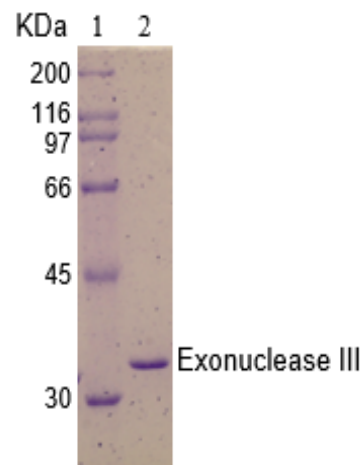


Fig: Lane 1. Protein marker
Lane 2. Exonuclease III

1x Exonuclease III Reaction Buffer:

33 mM Tris-acetate, 66 mM potassium acetate, 10 mM magnesium acetate, 1 mM DTT, pH 7.5 @ 25°C

Storage Buffer:

50 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, pH 7.5 @ 25°C

Storage Temperature:

-20°C

Heat Inactivation:

70°C for 20 min

Unit Definition:

One unit is defined as the amount of enzyme that incorporates 1 nmoles of dNTP into acid-insoluble form in 30 minutes at 37°C with duplex DNA.

Quality Control Assays:

Exonuclease III is free from contaminating nuclease activities.

Related Products:

- T4 UvsX Protein (Cat.# 3562, 3565)
- T4 UvsY Protein (Cat.# 3572, 3575)
- T4 gp32 Protein (Cat.# 3515)
- Bsu DNA Polymerase (Cat.# 3585)
- *Sau* DNA Polymerase (Cat.# 3595)
- Endonuclease IV (Nfo) (Cat.# 3425)

Ordering Information:

- Order online within the USA. Place orders on **www.intactgenomics.com** using our secure Shopping Cart.
- Order by email, phone, or fax.
Email: **sales@intactgenomics.com**
Phone: (314) 942-3655 | Toll-free : 855-835-7172 | Fax: (314) 942-3656
- Order via our distributors.

References:

1. Weiss, B. (1976) J. Biol. Chem. 251, 1896.
2. Rogers, S.G. and Weiss, B. (1980) Meth. Enzymology 65, 201.
3. Sambrook, J. et al., (1989) in: Molecular Cloning: A Laboratory Manual (2nd ed.), Cold Spring Harbor Laboratory Press, New York.
4. Richardson, C.C. et al., (1964) J. Biol. Chem. 239, 251.
5. Guo, L.H. and Wu, R. (1982) Nucl. Acids Res. 10, 2065

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Our hours are Monday - Friday, 8AM to 5PM, U.S. Central Standard Time.

Intact Genomics, Inc.

11840 Westline Industrial Drive, Suite 120,
St. Louis, MO. 63146, USA

Phone: (314) 942-3655 | **Toll-free :** 855-835-7172 | **Fax:** (314) 942-3656

Email: sales@intactgenomics.com | ig@intactgenomics.com

Website: www.intactgenomics.com

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