



GIBCOBRL



LIFE TECHNOLOGIES™

Topoisomerase I

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Cat. No. 38042-016

Lot No. _____ 200 units; _____ U/μl

Exp. Date: _____ . Store at -20°C (not frost-free).

Description:

Topoisomerase I (DNA Relaxing Enzyme) relaxes both negative and positive superhelical turns in covalently closed DNA by transient breakage and rejoining of phosphodiester bonds (1, 2, 3). The enzyme is isolated from calf thymus.

Unit Definition:

One unit converts 0.5 μg superhelical (Form I) φX174 RF DNA to the relaxed state in 30 min at 37°C.

Storage Buffer:

30 mM potassium phosphate (pH 7.0)
5 mM DTT
0.1 mM EDTA
0.2 mg/ml BSA
50% (v/v) glycerol
0.1% (w/v) Triton® X-100

Quality Control Assays:

This product has passed the following quality control assays: absence of detectable endodeoxyribonuclease, exodeoxyribonuclease, and phosphatase activities; performance in converting super-coiled DNA to relaxed DNA.

Additional Information: See Back Page

Doc. Rev.: 032098

This product is distributed for laboratory research use only. CAUTION: Not for diagnostic use. The safety and efficacy of this product in diagnostic or other clinical uses has not been established.

For technical questions about this product, call the Life Technologies TECH-LINE™ (800) 828-6666.

Additional Information:

Reaction Conditions For Relaxing Supercoiled DNA:

In a 50 μ l reaction incubate 0.5 μ g supercoiled ϕ X174 RF in 50 mM Tris HCl pH 7.5, 50 mM KCl, 10 mM MgCl₂, 0.5 mM DTT, 0.1 mM EDTA, 30 μ g/ml BSA with 1 unit of Topoisomerase I. Incubate 30 minutes at 37°C. Analyze treated samples on an agarose gel in the absence of ethidium bromide.

- If supercoiled DNA other than ϕ X174 RF is used, the amount of Topoisomerase I must be empirically determined.

References:

1. Wang, J. C., Gumport, R. I., Javaherian, K., Kirkegaard, K., Klevan, L., Kotewicz, M., and Tse, Y-C. (1980) in "Mechanistic Studies of DNA Replication and Genetic Recombination", ICN-UCLA Symposia on Molecular and Cellular Biology, Vol. 19 (Alberts, B. M. and Fox, C. F.), Academic Press, New York.
2. Champoux, J. J. (1978) *Ann. Rev. Biochem* 47, 449.
3. Wang, J. C. (1982) *Scientific American* 247, 94.

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