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## Product Information

### Topoisomerase I from wheat germ

Catalog Number **T7428**  
Storage Temperature  $-70^{\circ}\text{C}$

CAS RN 80449-01-0  
EC 5.99.1.2  
Synonyms: Topo I; DNA relaxing enzyme

#### Product Description

Topoisomerase I relaxes supercoiled DNA molecules. The enzyme initiates transient breakages and rejoins of phosphodiester bonds in superhelical turns of closed-circular dsDNA. Enzyme activity is independent of right- and left-handed superhelices. Applications for Topoisomerase I include:

- Analyze degree of DNA supercoiling by relaxing supercoiled circular molecules<sup>1</sup>
- Form knots and circles in single stranded DNA
- Convert complementary single stranded DNA to double stranded, circular forms
- Rejoin nicks in double-stranded DNA

This product is supplied in a solution of 50 mM Tris-HCl, pH 7.9, with 1 mM EDTA, 1 mM DTT, 0.5 M NaCl and 50% glycerol (v/v). No RNase, Dnase, or nickase activity is detected.

Unit definition: One unit will convert 1  $\mu\text{g}$  of supercoiled pGEM90Zf(-) plasmid DNA to the relaxed form in 30 minutes at  $37^{\circ}\text{C}$ .

Note: 1 unit of Topoisomerase I defined on pGEM90Zf(-) is equivalent to 4 units defined on pBR322.

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### Preparation Instructions

Centrifuge to improve recovery of product from its storage container.

#### Storage/Stability

The product ships on dry ice and storage at  $-70^{\circ}\text{C}$  is recommended. To preserve enzyme activity, avoid multiple freeze-thaw cycles and frequent temperature variations. Do not store in a frost-free freezer.

#### References

1. Wang, J.C., DNA topoisomerases. *Annu. Rev. Biochem.*, **65**, 635-992 (1996).

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