A&A BIOTECHNOLOGY
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Manual

T4 DNA ligase

Enzyme for efficient ligation of dsDNA. Concentration 1 U/µl.

catalog #	size
1004-200	200 U
1004-1000	5 x 200 U

For research use only.

Guarantee

A&A Biotechnology provides guarantee on this product.
The company does not guarantee correct performance of this kit in the event of:

- not adhering to the supplied protocol
- use of not recommended equipment or materials
- use of other reagents than recommended or which are not a component of the product
- use of expired or improperly stored product or its components

Description

T4 DNA ligase is purified from *E.coli* stream carrying a plasmid with a cloned gene 30 of phage T4.
Enzyme catalyzes the formation of phosphodiester bonds between juxtaposed 5'-phosphate and 3'-hydroxyl termini in duplex DNA or RNA with blunt or cohesive ends.
Enzyme requires ATP as a cofactor for activity. The presence of NaCl and KCl in concentrations above 200 mM inhibits the activity of T4 DNA ligase.

Application

- fast ligation of DNA fragments (cohesive and blunt ends).
- repairing of single-stranded nicks in duplex DNA, RNA or DNA-RNA hybrids. It has no activity against single-stranded nucleic acids.

Contents

	1004-200	**1004-1000**	**storage**
T4 DNA ligase	200 U (1 U/µl)	5 x 200 U (1 U/µl)	-20 °C
storage buffer: 20 mM Tris-HCl, pH 7,5, 50 mM KCl, 1 mM DTT, 0,1 mM EDTA, 50% glicerol (v/v)			
Ligase reaction buffer	1 ml	2 x 1 ml	-20 °C
10x ligation buffer: mix of buffers, salts, stabilizators and ATP			

Ligation protocol

1. Thaw and mix all components and add:

component	reaction volume 20 µl
Ligase reaction buffer	2 µl
T4 DNA ligase	1 µl
Sample (insert + vector)	1-17 µl
Sterile water	up to 20 µl

2. Keep for **15 min** at **room temp**.

Notes

1. T4 DNA ligase requires ATP as a cofactor for activity.
2. The presence of NaCl and KCl in concentrations above 200 mM inhibits the activity of T4 DNA ligase.

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