

T4 RNA Ligase

[Cloned]

Catalog Number AM2140, AM2141

Pub. No. 4393896 Rev. B

Contents	Cat. no.	Quantity	Storage conditions
T4 RNA Ligase, 5 U/μL	AM2140	500 Units	Store at -20°C. <i>Do not store in a frost-free freezer.</i>
	AM2141	2500 Units	
10X T4 RNA Ligase Buffer <ul style="list-style-type: none"> • 500 mM Tris-HCl pH 7.8 • 100 mM MgCl₂ • 100 mM DTT • 10 mM ATP 	All sizes	1 mL	

 **WARNING!** Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from www.lifetechnologies.com/support.

Product description

T4 RNA Ligase catalyzes the ligation of the 5'-phosphate termini of a nucleic acid donor to the 3'-OH termini of a nucleic acid acceptor. Substrates include RNA, DNA, and oligonucleotides. The reaction is ATP dependent.

Source: an *E. coli* strain overexpressing T4 RNA Ligase.

Unit definition: One unit (U) is the amount of T4 RNA Ligase required to catalyze the formation of 1 nmol of 5'-[³²P]-rA₁₂₋₁₈ into a phosphatase-resistant form in 30 min at 37°C. Assay conditions: 50 mM Tris-HCl (pH 7.8), 10 mM MgCl₂, 5 mM DTT, 10 μM 5'-rA₁₇, 1 mM ATP.

Storage buffer (not included): 20 mM Tris-HCl (pH 7.5), 100 mM NaCl, 1 mM EDTA, 1 mM DTT, 50% glycerol.

Using T4 RNA Ligase

T4 RNA Ligase is used in the FirstChoice[®] RLM-RACE Kit (Cat. no. AM1700) for tagging the 5' ends of mRNA with an oligonucleotide adaptor. It can also be used in 3'-end labeling of RNA molecules, and for circularizing RNA and DNA molecules.

Procedure for 3' end-labeling of RNA (20 μL reaction):

1. Combine the following reagents in the indicated amounts:

Reagent
2 μL 10X T4 RNA Ligase Buffer
50–100 pmol RNA
50–100 pmol [³² P]pCp (equimolar)
250–500 pmol ATP (5X molar excess)
2 μL T4 RNA Ligase (10 U)
Nuclease-free water to 20 μL

2. Mix well and incubate at 4°C for 16–96 h.
3. Purify the [³²P]RNA by gel electrophoresis or by size-exclusion chromatography on RNase-free Sephadex G-25 or G-50 spin columns or NucAway™ Spin Columns (Cat. No. AM10070).

Normally 10% of the radiolabel should be incorporated in the 3' end-labeling reaction.

Limited product warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale found on Life Technologies' website at www.lifetechnologies.com/termsandconditions. If you have any questions, please contact Life Technologies at www.lifetechnologies.com/support.

For Research Use Only. Not for use in diagnostic procedures.

The information in this guide is subject to change without notice.

DISCLAIMER: LIFE TECHNOLOGIES CORPORATION AND/OR ITS AFFILIATE(S) DISCLAIM ALL WARRANTIES WITH RESPECT TO THIS DOCUMENT, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. TO THE EXTENT ALLOWED BY LAW, IN NO EVENT SHALL LIFE TECHNOLOGIES AND/OR ITS AFFILIATE(S) BE LIABLE, WHETHER IN CONTRACT, TORT, WARRANTY, OR UNDER ANY STATUTE OR ON ANY OTHER BASIS FOR SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, MULTIPLE OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING FROM THIS DOCUMENT, INCLUDING BUT NOT LIMITED TO THE USE THEREOF.

LIMITED USE LABEL LICENSE: Research Use Only : Notice to Purchaser: The purchase of this product conveys to the purchaser the limited, non-transferable right to use the purchased amount of the product only to perform internal research for the sole benefit of the purchaser. No right to resell this product or any of its components is conveyed expressly, by implication, or by estoppel. This product is for internal research purposes only and is not for use in commercial applications of any kind, including, without limitation, quality control and commercial services such as reporting the results of purchaser's activities for a fee or other form of consideration. For information on obtaining additional rights, please contact outlicensing@lifetech.com.

© 2013 Life Technologies Corporation. All rights reserved. The trademarks mentioned herein are the property of Life Technologies Corporation and/or its affiliate(s) or their respective owners.

For support visit lifetechnologies.com/support or email techsupport@lifetech.com

lifetechnologies.com

11 February 2013

