Canvax Reagents, S.L.U.
Luis de Mercado Street, 19
Boecillo Technological Park
47151, Boecillo
Valladolid, Spain.

Tlf: +34 983 54 85 63
info@canvaxbiotech.com

www.canvaxbiotech.com

DATA SHEET

Version: 02
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1. Identification

Product name **T7 RNA Polymerase**
(50 U/µL) 5000 U

Cat. No **EZ0025**

2. Description

T7 RNA Polymerase is a very active recombinant enzyme produced by a strain of *Escherichia coli*. The enzyme is a DNA dependent RNA polymerase from coliphage T7. It catalyzes the synthesis of RNA in the 5´→ 3´ direction only in the presence of its cognate T7 phage promoter sequence.

This enzyme is compatible with the available co-transcriptional capping system

3. Protein information

Purity	>95% as determined by SDS-polyacrylamide gels with Coomassie® blue staining
Reaction Buffer	10X Reaction Buffer: 400 mM Tris-HCl, 60 mM MgCl2, 10 mM DTT, 20 mM spermidine (pH 7.9 @ 25˚C)
Storage Buffer	100 mM NaCl, 50 mM Tris-HCl (pH 7.9), 1 mM EDTA, 20 mM BME, 0.1 % Triton X-100, 50 % Glycerol
Biological activity	One unit is defined as the amount of enzyme required to generate 2 nmol RNA in 1 hour at 37˚C determined by a fluorimetric method.

4. Storage specifications

Store at -20ºC. Avoid exposure to constant temperature changes.

5. Applications

- Synthesis of mRNA, RNA standard template for RT-PCR, RNA probes for hybridization.
- Preparation of RNA vaccines.
- Studies of RNA secondary structure and RNA-protein interactions, RNA splicing.

6. Recommended IVT Protocol (for 20 µL)

Components	Volume	Final con.
10X T7 RNA Polymerase Reaction Buffer	2 µL	1 X
NTP Mix	X µL	0.5 mM each
Template DNA	X µL	0.2–1 µg
RNase Inhibitor*	0.5 µL	1 U/µL
DTT*	X µL	5 mM
T7 RNA Polymerase	2 µL	5 U/µL
Nuclease-free H_2O	to 20 µL	-

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*Optional

Incubate at 37˚C for 1 hour.

For shorter transcripts (< 300 nt), incubate at 37˚C for 2–16 hours for improved yield

7. Further information

Product Use Limitations	This product is developed, designed and sold exclusively only for research purposes use. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.
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