

Thermostable T7 RNA Polymerase

(M008)

Product Overview

Thermostable T7 RNA Polymerase is an engineered, heat-resistant, DNA-dependent 5'→3' RNA polymerase expressed in *Escherichia coli*, which specifically recognizes the T7 promoter sequence. Compared with conventional T7 RNA Polymerase, it exhibits excellent thermostability and retains stable transcriptional activity after incubation at 42–50 °C for 1 hour. Key advantages include improved transcription efficiency for high-GC RNA, enhanced synthesis of long dsRNA, reduced formation of dsRNA byproducts, and decreased immunogenicity of synthesized RNA.

Components

Cat. No.	Product Name	Volume (M008)
M008-A	Thermostable T7 RNA Polymerase	50 U/μL, 25 KU
M008-B	10 × Transcription Buffer	1 mL×5

Definition of Activity

One unit (U) is defined as the amount of enzyme required to catalyze the incorporation of 1 nmol of AMP into polynucleotides within 60 minutes at 37 °C.

Product Applications

1. Synthesis of mRNA, siRNA, dsRNA, gRNA, etc.
2. Synthesis of labeled or unlabeled high-specificity RNA probes.

Shipping and Storage

Store at –30 to –15 °C. Ship at ≤0 °C.

Precautions

1. This product is **for scientific research use only** by qualified personnel.
2. Wear disposable gloves and a mask during experiments to prevent RNA degradation by RNase.
3. Perform transcription reactions in an **RNase-free environment**.