



T7 RNA Polymerase HC

Highly concentrated T7 RNA Polymerase for set-up of high yield *in vitro* transcription reactions

Cat. No.	Amount
RNT-008	50 µl (2 µg/µl)

For general laboratory use.

Shipping: shipped on gel packs

Storage Conditions: store at -20 °C

Additional Storage Conditions: avoid freeze/thaw cycles

Shelf Life: 12 months

Purity: ≥ 95 % (SDS-PAGE)

Form: liquid

Concentration: 2.0 – 2.2 µg/µl (A280, $\epsilon = 140 \text{ L mmol}^{-1} \text{ cm}^{-1}$ [1] in T7 RNA Polymerase HC Storage Buffer)

Description:

Bacteriophage T7 RNA Polymerase is a DNA-dependent RNA polymerase (99 kDa) that catalyzes *in vitro* RNA synthesis from a DNA sequence containing a T7 phage promoter.

The highly concentrated version T7 RNA Polymerase HC is ideally suited for set-up and optimization of high yield *in vitro* transcription reactions. The provided T7 IVT Set-up Buffer, MgCl₂ and DTT solutions enable testing of different reaction conditions such as nucleotide/ MgCl₂ concentrations.

Recommendation for assay set-up with minimal optimization: HighYield T7 RNA Synthesis Kit (#RNT-101).

Activity: 1 µl T7 RNA Polymerase HC generates $\geq 30 \mu\text{g}$ RNA in 10 min at 37°. This is comparable to 1000 U of NEB's T7 RNA Polymerase (High Concentration), #M0460T (activity assay conditions: 1x T7 IVT Set-up Buffer supplemented with 10 mM DTT, 12 mM MgCl₂, 3 mM NTPs, 1 µl T7 RNA Polymerase HC and 1 µg DNA template (1.4 kpb RNA transcript) in 20 µl. RNA yield was determined with a fluorescence microplate assay.)

Content:

T7 RNA Polymerase HC

1x 50 µl (2 µg/µl)
50 mM Tris-HCl, 1 mM EDTA, 100 mM NaCl, 5 mM DTT, 0.1 % Triton-X-100, 50 % Glycerol (v/v), pH 8.0

T7 IVT Set-up Buffer

1x 200 µl (10x)
400 mM Tris-HCl (pH 8.0), 20 mM Spermidin

DTT

1x 100 µl (100 mM)

MgCl₂

1x 200 µl (200 mM)

Related Products:

HighYield T7 RNA Synthesis Kit, #RNT-101
RNAse Inhibitor - recombinant, #PCR-392
NTP bundle, #NU-1014

Selected References:

[1] King *et al.* (1986) Transcription by T7 RNA Polymerase Is Not Zinc-Dependent and Is Abolished on Amidomethylation of Cysteine-347. *Biochemistry* **25**(1):37.