PRODUCT INFORMATION

T7 RNA Polymerase Transcription Buffer Set

v. 250701

Catalog number C15027-K01 / C15027-K02

Package & Component

	C15027-K01	C15027-K02
T7 RNA Polymerase (200 U/μL)	10,000 U	25,000 U
10X RNA Polymerase Reaction Buffer A	0.5 mL	1 mL
10X RNA Polymerase Reaction Buffer B	0.5 mL	1 mL
10X RNA Polymerase Reaction Buffer C	0.5 mL	1 mL
10X RNA Polymerase Reaction Buffer D	0.5 mL	1 mL
10X RNA Polymerase Reaction Buffer E	0.5 mL	1 mL
10X RNA Polymerase Reaction Buffer F	0.5 mL	1 mL
10X RNA Polymerase Reaction Buffer G	0.5 mL	1 mL
10X RNA Polymerase Reaction Buffer H	0.5 mL	1 mL
10X RNA Polymerase Reaction Buffer I	0.5 mL	1 mL
100 mM DTT	0.5 mL	1 mL

Description

The T7 RNA Polymerase Transcription Buffer Set contains a T7 RNA Polymerase and a set of seven 10X RNAP reaction buffers. This set of reagents was specifically designed for the selection of efficient transcription reactions. The user simply combines DNA template, NTPs, T7 RNA polymerase, and the 10X polymerase reaction buffer to proceed following reactions.

Manuel

Standard RNA synthesis procedures:

1. Below reaction mixture should be prepared under room temperature and combined in the following order:

Component	Amount	Final concentration
Nuclease-Free H_2O	X μL	-
Template DNA	0.5-1 μg	-
10X RNA Polymerase Reaction Buffer	2 μL	1 X
ATP (100 mM)	0.6 μL	3 mM
UTP (100 mM)	0.6 μL	3 mM
CTP (100 mM)	0.6 μL	3 mM
GTP (100 mM)	0.6 μL	3 mM
100 mM DTT	2 μL	10 mM

	T7 RNA Polymerase (200 U/μL)	1 μL	-
	RNase inhibitor (optional)	0.5 μL	1 U/μL
	Inorganic Pyrophosphatase (optional)	0.5 μL	0.0025 U/μL
	Total reaction volume	20 μL	-

2. Incubate at 37°C for 30 minutes to 2 hours.
3. Above reaction mixture may be scaled up or down proportionately.

Storage	Store at -20°C for up to 6 months, and it is recommended to store at -80°C for long-term preservation. Avoid repeated freeze/thaw cycles.
Handling Instruction	For optimal storage, aliquot the enzyme, reaction buffer and DTT reagent into smaller quantities and store at recommended temperature. Avoid extended exposure to ice; instead, promptly retrieve the required portion and return it to the appropriate storage temperature.
Notes	1. Transcription reaction should be performed under RNase free condition. Use nuclease-free tubes, reagents, and water to avoid RNase contamination. Also, wear gloves when working with RNA. 2. To obtain optimal condition, NTP concentration can be titrated between 3 – 5 mM. 3. The volume of T7 RNA Polymerase can be titrated between 1-2 μL in the IVT reaction to optimize your assay.

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