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AccuPower® CycleScript RT PreMix (dT₂₀) is a ready-to-use reverse transcription kit, which can generate homogeneous cDNA synthesis through temperature cycling (patent pending). This product contains all components including thermostable CycleScript Reverse Transcriptase, dNTPs, reaction buffer, primer, and stabilizers for reverse transcription and is stable for 2 years at -20°C. AccuPower® CycleScript RT PreMix (dT₂₀) has high reverse transcription activity in broad ranges of temperature from conventional 42°C and 55°C to temperature cycling between low and high temperatures. This product is designed for cyclic reverse transcription, with which the CT RT reaction can be performed in higher performance than that of reverse transcription reaction at conventional temperature. The CT RT reaction is composed of 2 or 3 steps as follows; The Step 1 is performed at 15~40°C, at which short primer is fully annealed. The Step 2 is performed at 42~48°C (optional) for cDNA synthesis. The Step 3 is performed at high temperature 50~55°C at which secondary structure of RNA template obstructing reverse transcription is melted and reverse transcription is also occurred.

Advantages

- Speed** Substantial reduction in reaction setup time. No need adding primer and RNA template denaturation step. No difference between with and without denaturation step.
- Stability** As each tube of AccuPower® CycleScript RT PreMix (dT₂₀) contains a stabilizers (patented in US and Korea), which can maintain the stability of the CycleScript reverse transcriptase up to 2 years at -20°C.
- Reproducibility** The strict functional QC assays demonstrated highly consistent and reproducible RT performance. In most applications an increase in yield is observed as compared to the standard reactions.
- Simplicity** The fewer manual steps allow reduction in potential errors and cross contaminations. Just add RNA template and DEPC DW.

Experimental Protocol

1. Add the RNA template. **RNA must have poly A.**
Recommended concentration: 0.1~1.0 µg of Total RNA or 0.01~0.1 µg of Poly(A) RNA
2. Fill up to the 20µl reaction volume with DEPC DW.
3. Dissolve the lyophilized transparent pellet by vortexing or tapping, and briefly spin down. **The pellet should be dissolved completely.**
4. **Perform cDNA synthesis reaction either cyclic reaction or single temperature reaction.**

cDNA synthesis → RTase inactivation

4-1) CT RT reactions (examples)

CT RT 1			
Step 1	15~37°C	30 sec: primer annealing	Repeat 12 times or less
Step 2	48°C	4 min: cDNA synthesis	
Step 3	55°C	30 sec: melting secondary structure & cDNA synthesis	
Heat inactivation	95°C	5min	

CT RT 2			
Step 1	15~37°C	1min: primer annealing	Repeat 12 times or less
Step 2	50°C	4min: melting secondary structure & cDNA synthesis	
Heat inactivation	95°C	5min	

4-2) Single temperature reaction: 37 ~ 55°C (You can choose one temperature but this product prefers high temperature 50°C)
30 ~ 60 min. → 95°C 5min

* If PCR is followed RT reaction, perform the PCR with AccuPower® PCR PreMix from Bioneer as follows:

- 1) Add an aliquot of 2~5 µl of the finished RT product (synthesized cDNA) to the AccuPower® PCR PreMix tube.
- 2) Perform PCR cycles according to the PCR condition.
(Annealing temperature and time should be optimized according to each primer/template combination.)

Trademark

AccuPower is a registered mark of Bioneer Corporation.

Ordering Information

Tube type	Reaction	Cat. No	Description	Tube type	Reaction	Cat. No	Description	
0.2ml Tube	20 ul	K-2044	dT ₂₀ / 0.2 ml thin-wall 8-strip tubes with attached cap / 96 tubes	0.2ml Tube	20 ul	K-2046	dN ₆ / 0.2 ml thin-wall 8-strip tubes with attached cap / 96 tubes	
		K-2044-B	dT ₂₀ / 0.2 ml thin-wall 8-strip tubes with attached cap / 480 tubes			K-2046-B	dN ₆ / 0.2 ml thin-wall 8-strip tubes with attached cap / 480 tubes	
	50 ul	K-2047	dT ₂₀ / 0.2 ml thin-wall 8-strip tubes with attached cap / 96 tubes		50ul	k-2049	dN ₆ / 0.2 ml thin-wall 8-strip tubes with attached cap / 96 tubes	
		K-2047-B	dT ₂₀ / 0.2 ml thin-wall 8-strip tubes with attached cap / 480 tubes			k-2049-B	dN ₆ / 0.2 ml thin-wall 8-strip tubes with attached cap / 480 tubes	
	20 ul	K-2045	dN ₁₂ / 0.2 ml thin-wall 8-strip tubes with attached cap / 96 tubes		0.5ml Tube	50 ul	K-2050	dT ₂₀ / 0.5 ml thin-wall tubes with attached cap / 100 tubes
		K-2045-B	dN ₁₂ / 0.2 ml thin-wall 8-strip tubes with attached cap / 480 tubes				K-2050-1	dN ₁₂ / 0.5 ml thin-wall tubes with attached cap / 100 tubes
	50ul	K-2048	dN ₁₂ / 0.2 ml thin-wall 8-strip tubes with attached cap / 96 tubes	K-2050-2		dN ₆ / 0.5 ml thin-wall tubes with attached cap / 100 tubes		
		K-2048-B	dN ₁₂ / 0.2 ml thin-wall 8-strip tubes with attached cap / 480 tubes					

Notice to Purchaser

This product is optimized for use in the CT RT covered by patent (pending) applied by Bioneer Corporation. No license under this patent to use CT RT Process is conveyed expressly or by implication to the purchaser by the purchase of this product. This product is sold for research use only and is not to be administered to humans or used for medical diagnostics. Further information on purchasing licenses may be obtained by contacting the Director of Licensing at Bioneer Corporation, 49-3, Munpyeong-dong, Daedeok-gu, Daejeon 306-220, South Korea.

A complete product list appears on our web site at www.bioneer.com