

RealHelix™ 1-sec qRT-PCR Kit [Probe] (Ver. 2.0)

Kit Contents

RealHelix™ 1-sec qRT-PCR Kit [Probe] (Ver. 2.0)		
Cat. No.	SQR2-P200 (200rxns)	SQR2-P500 (500rxns)
1-sec qRT-PCR 2x Premix [Probe] (V2)	1ml x 2ea	1ml x 5ea
ROX Dye (25μM)	0.2ml	0.5ml
Instructions for Use	1ea	1ea

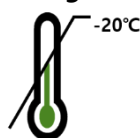
Description

RealHelix™ 1-sec qRT-PCR Kit [Probe] (Ver. 2.0) is a 2x premix for qRT-PCR assay using fluorescent probe-based detection. This premix effectively delivers reproducible, reliable detection of up to five RNA targets by fast multiplex in a single tube reaction (FAST: 45 min/40 cycles or ULTRAFast: 25 min/40 cycles). The combination of enzymes (antibody-inhibited hot-start *Taq*, reverse transcriptase, RNase inhibitor) and Nanohelix's unique buffers (including dNTPs, Mg²⁺, and a stabilizing agent) in the ready-to-use premix provides outstanding speed, specificity, and sensitivity of the real-time assay.

Application

Quantification of target RNA By real-time RT-PCR

Storage



Store below -20°C

※ ROX Dye should be stored in the dark.

Shelf life



12 months

Quality control

By Nanohelix's ISO 13485-certified quality management system, each lot of **RealHelix™ 1-sec qRT-PCR Kit [Probe] (Ver. 2.0)** was tested against predetermined specifications to ensure consistent product quality.

Protocol

1. Program a real-time PCR instrument as follows to synthesize cDNA and PCR amplification. Set up the excitation and emission maxima suitable to the fluorescent probe chemistry.

Standard reaction*

Step		Condition	Cycle(s)
cDNA Synthesis		50°C for 30 min	1
PCR Enzyme activation		95°C for 5 min	1
PCR Amplification	Denaturation	95°C for 15 sec	40
	Annealing & Extension	60°C for 1 min Collect the fluorescence data	

Fast reaction*

Step		Condition	Cycle(s)
cDNA Synthesis		50°C for 10 min	1
PCR Enzyme activation		95°C for 2 ~ 5 min	1
PCR Amplification	Denaturation	95°C for 1 ~ 10 sec	40
	Annealing & Extension	60°C for 1 ~ 30 sec Collect the fluorescence data	

* The reaction conditions could be modified and optimized to the system used.

2. Add the following components in a PCR tube for a single 20 μ l reaction.

Components	Volumes
Template RNA*	5.0 μ l
1-sec qRT-PCR 2x Premix [Probe] (V2)	10.0 μ l
Forward primer (5 μ M)	1.0 μ l
Reverse primer (5 μ M)	1.0 μ l
Probe (2.5 μ M)	1.0 μ l
ROX Dye	Optional**
RNase-free Water	Adjust to final 20 μ l

* If RNAs purified from blood-derived samples are used, the target RNA amplification may be affected by the PCR inhibitors derived from the sample. To solve this problem, it is recommended to use 0.1 mg/ml BSA as the final concentration in the reaction mixture.

** Use the recommended amount of ROX Dye (Passive Reference) depending on the instrument.

3. Gently mix and briefly centrifuge the reaction mix.

4. Perform real-time RT-PCR.

Application Note



Products

Cat. No.	Products	Size
SQR2-P200	RealHelix™ 1-sec qRT-PCR Kit [Probe] (Ver. 2.0)	200rxns
SQR2-P500	RealHelix™ 1-sec qRT-PCR Kit [Probe] (Ver. 2.0)	500rxns