RealHelix™ 1-sec qRT-PCR Kit [Probe] [UDG System] (V2S)

Kit Contents

RealHelix™ 1-sec qRT-PCR Kit [Probe] [UDG System] (V2S)		
Cat. No.	**SQRU2S-P200** (200rxns)	**SQRU2S-P500** (500rxns)
1-sec qRT-PCR 2x Premix [Probe] [UDG] (V2S)	1ml x 2ea	1ml x 5ea
ROX Dye (25μM)	0.2ml	0.5ml
Instructions for Use	1ea	1ea

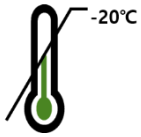
Description

RealHelix™ 1-sec qRT-PCR Kit [Probe] [UDG System] (V2S) 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, heat-labile UDG) and Nanohelix's unique buffers (including dNTP(U)s, Mg^{2+}, and a stabilizing agent) in the ready-to-use premix provides outstanding speed, specificity, and sensitivity of the real-time assay. The applied UDG system prevents the carryover contamination of products from previous reactions.

Application

Quantification of target RNA By real-time RT-PCR

Storage



Store below -20℃.
※ ROX Dye should be stored in the dark.

Shelf life

12 months

Quality Control

Each lot of **RealHelix™ 1-sec qRT-PCR Kit [Probe] [UDG System] (V2S),** 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)
[Optional] UDG Reaction**		20 ~ 25℃ for 5 min	1
cDNA Synthesis		50℃ for 30 min	1
PCR Enzyme activation		95℃ for 5 min	1
PCR Amplification	Denaturation	95℃ for 15 sec	40
	Annealing & Extension	60℃ for 1 min **Collect the fluorescence data**	

Fast reaction*

Step	Condition		Cycle(s)
[Optional] UDG Reaction**		20 ~ 25℃ for 5 min	1
cDNA Synthesis		50℃ for 10 min	1
PCR Enzyme activation		95℃ for 2 ~ 5 min	1
PCR Amplification	Denaturation	95℃ for 1 ~ 10 sec	40
	Annealing & Extension	60℃ for 1 ~ 30 sec **Collect the fluorescence data**	

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

** The UDG reaction step is not essential because UDG can efficiently remove the carryover contaminant DNA during the preparation of the RT-PCR mixture and cycler ramping.

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

Components	Volumes
Template RNA	5.0µl
1-sec qRT-PCR 2x Premix [Probe] [UDG] (V2S)	10.0µl
Forward primer (5µM)	1.0µl
Reverse primer (5µM)	1.0µl
Probe (2.5µM)	1.0µl
ROX Dye (25µM)	Optional*
RNase-free Water	Adjust to final 20µl

* 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.

Products

Cat. No.	Products	Size
SQRU2S-P200	RealHelix™ 1-sec qRT-PCR Kit [Probe] [UDG System] (V2S)	200rxns
SQRU2S-P500	RealHelix™ 1-sec qRT-PCR Kit [Probe] [UDG System] (V2S)	500rxns

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