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

Kit Contents

RealHelix™ 1-sec qPCR Kit [Probe] (Ver. 2.0)		
Cat. No.	**SQP2-P200 (200rxns)**	**SQP2-P500 (500rxns)**
1-sec 2x Premix [Probe] (V2)	1ml x 2ea	1ml x 5ea
ROX Dye (25μM)	0.2ml	0.5ml
Instructions for Use	1ea	1ea

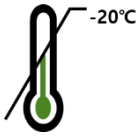
Description

RealHelix™ 1-sec qPCR Kit [Probe] (Ver. 2.0) is designed to perform fast real-time analysis of DNA samples using the fluorescent probe based detection. This kit provides 2x premix and separate ROX reference dye. The convenient 2x concentrated premix contains an antibody-inhibited hot-start *Taq* polymerase (*Ab+Taq* polymerase), dNTPs, buffers, Mg^{2+}, and a stabilizing agent. The premix can also be used in combination with ROX reference dye in PCR instruments that are compatible with the evaluation of the ROX signal. The outstanding fast real-time assay (between 30-60 min.) combined with high specificity and sensitivity is achieved with a unique buffer system and optimized hot-start polymerase.

Application

Fast quantification of target DNA by real-time PCR

Storage



Store below -20℃

※ 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 qPCR Kit [Probe] (Ver. 2.0)** was tested against predetermined specifications to ensure consistent product quality.

Protocol

1. **Program a real-time PCR instrument according to the recommendations below. Set up the excitation and emission maxima suitable to the fluorescent probe chemistry.**

<2-step cycling protocol>

Step	Condition		Cycle(s)
Enzyme Activation		95℃ for 2 ~ 5 min	1
PCR Amplification	Denaturation	95℃ for 1 ~ 10 sec*	40
	Annealing & Extension	**55 ~ 60**℃ for 1 ~ 30 sec* **Collect the fluorescence data**	

*** The reaction time for each step should be optimized on the applied thermocycler.**

<3-step cycling protocol>

Step	Condition		Cycle(s)
Enzyme Activation		95℃ for 2 ~ 5 min	1
PCR Amplification	Denaturation	95℃ for 1 ~ 10 sec*	40
	Annealing	[1)]**AT** ℃ for 1 ~ 20 sec*	
	Extension	72℃ for 1 ~ 30 sec* **Collect the fluorescence data**	

*** The reaction time for each step should be optimized on the applied thermocycler.**

[1)] **AT,** the annealing temperature of primers used

Annealing Temperature = T_m − (4 ~ 6℃)

Where, T_m (Melting Temp.) = [4℃ x (G + C)] + [2℃ x (A + T)]

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2. Add following components for a 20µl volume reaction.*

Components	Volumes
DNA Template	X µl
1-sec 2x Premix [Probe] (V2)	10µl
Forward primer (10µM)	0.5 ~ 1.0µl
Reverse primer (10µM)	0.5 ~ 1.0µl
Fluorescent Probe (5µM)	0.5 ~ 1.0µl
ROX Dye (25µM)	Optional **
RNase-free Water	Adjust to final 20µl

* For multiple reactions, prepare a master mix by adding the required volumes of each above components (except the DNA template) and dispense appropriate volumes into PCR tubes or plates.

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

3. Gently mix and immediately centrifuge the reaction mix.

4. Perform the Real-time PCR.

Application Note

Products

Cat. No.	Products	Size
SQP2-P200	RealHelix™ 1-sec qPCR Kit [Probe] (Ver. 2.0)	200rxns
SQP2-P500	RealHelix™ 1-sec qPCR Kit [Probe] (Ver. 2.0)	500rxns

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