

PerfectStart® Visual Green qPCR SuperMix

Please read the datasheet carefully prior to use.

Cat. No. AQ621

Version 1.0

Storage: at -20 °C in dark for two years

Description

The product contains *PerfectStart*® Fast Taq DNA Polymerase, optimized dual-cation buffer, SYBR Green I, dNTPs, PCR enhancer, PCR stabilizer and **tracer dye**. Three monoclonal antibodies bind to the FastTaq DNA Polymerase engineered by directed evolution with high affinity, which are prepared by optimized process, effectively blocking DNA polymerase activity and inhibiting non-specific amplification at low temperature. The qPCR SuperMix is provided at 2× concentration and can be used at 1× concentration by adding template, primers, **Universal Passive Reference Dye (optional)** and nuclease-free water. This product uses the principle of mixing yellow and blue to generate green color to track the **pipetting** process. **The qPCR SuperMix contains a yellow dye, and 10×Sample Buffer contains a blue dye. Adding template diluted in Sample Buffer with a brighter color (bright blue) to the qPCR SuperMix (light yellow) will show an obvious color change from yellow to green with easy naked-eye visualization which is more effective in avoiding pipetting errors.**

Highlights

- *PerfectStart*® Fast Taq DNA Polymerase: fast and efficient; hot-start and blocking by 3 antibodies; high specificity, sensitivity and amplification efficiency; applicable to a wide range of species.
- Dual-cation buffer enhances specificity and reduces primer-dimer formation.
- Universal Passive Reference Dye for different instruments to correct differences in fluorescence detection between wells due to slight variations in reaction volume or differences in well position.
- Contain tracer dye to avoid pipetting errors.

Kit Contents

Component	AQ621-01	AQ621-02	AQ621-03	AQ621-04
2× <i>PerfectStart</i> ® Visual Green qPCR SuperMix	1 ml	5×1 ml	15×1 ml	25×1 ml
10×Sample Buffer	200 µl	1 ml	3×1 ml	5×1 ml
Universal Passive Reference Dye (50×)	40 µl	200 µl	600 µl	1 ml
Nuclease-free Water	1 ml	5 ml	3×5 ml	5×5 ml

Sample dilution is recommended

Method 1: add 10 × Sample Buffer with a volume of 1/9 of the template to the template. For example, 9 µl of template + 1 µl of 10 × Sample Buffer dilute the concentration of Sample Buffer in the template to 1 ×.

Method 2: dilute 10 × Sample Buffer by 10-fold with Nuclease-free Water to make the final concentration of 1 ×, and then use 1 × Sample Buffer to dissolve and dilute solid DNA, such as dried plasmids or genomic DNA precipitation as a template.

Reaction Components (20 µl)

Component	Volume	Final Concentration
Template	2-5 µl	as required
Forward Primer (10 µM)	0.4 µl	0.2 µM
Reverse Primer (10 µM)	0.4 µl	0.2 µM
2× <i>PerfectStart</i> ® Visual Green qPCR SuperMix	10 µl	1×
Universal Passive Reference Dye (50×)(optional)	0.4 µl	1×
Nuclease-free Water	Variable	-
Total volume	20 µl	-



***Note:** It is recommended that the amount of template added to the 20 μ l qPCR reaction mix should be in the range of 2-5 μ l. For genomic DNA, the recommended amount of template is 10 pg-1 μ g while for Plasmid DNA, the recommended amount of template is 10-10⁷ copies.

qPCR (two-step method)

95°C	1 min	} 40-45 cycles
95°C	5 sec	
60°C	15 sec★	

Dissociation Stage

★Please choose an instrument that supports 15-second extension and read time, such as: Bio-Rad CFX96, Roche Light Cycler 96, ABI Step One, Bioer FQD-96A, MOLARRAY MA-6000, etc.;

★If the qPCR instrument does not support 15-second extension and read time, please set it to the shortest time supported by the instrument, such as: ABI 7500, please set the time to 30 seconds.

Universal Passive Reference Dye

ABI Prism 7000/7300/7700/7900, ABI Step One, ABI Step One Plus, ABI 7900HT, ABI 7900HT Fast; ABI Prism 7500, ABI Prism 7500 Fast, ABI QuantStudio Dx/3/5, ABI QuantStudio 6/7/12K Flex, ABI ViiA 7, Stratagene Mx3000P/ Mx3005P/ Mx4000

No Passive Reference Dye

Roche LightCycler 480, Roche Light Cycler 96, MJ Research Chromo4, MJ Research Opticon 2, Takara TP-800, Bio-Rad iCycler iQ, Bio-Rad iCycler iQ5, Bio-Rad CFX96, Bio-Rad C1000 Thermal Cycler, Thermo Scientific Pikoreal 96, Qiagen Corbett Rotor-Gene 6000, Qiagen Corbett Rotor-Gene G, Qiagen Corbett Rotor-Gene Q, Qiagen Corbett Rotor-Gene 3000, Mastercycler ep realplex

Notes

Completely thaw the contents in the tube and mix well before each use.

For better visual contrast, it is recommended to use a white base plate when using transparent qPCR tubes.

FOR RESEARCH USE ONLY

