PerfectStart® Visual Green qPCR SuperMix

Please read the datasheet carefully prior to use.

Cat. No. AQ621

Version No. Version 1.0

Storage： at -18℃ or below 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×*PerfectStart*® 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×*PerfectStart*® 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 μl qPCR reaction mix should be in the range of 2-5 μl. For genomic DNA, the recommended amount of template is 10 pg-1 μg while for Plasmid DNA, the recommended amount of template is 10-10^7 copies.

qPCR (two-step method)

95°C	1 min	
95°C	5 sec	40-45 cycles
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, not for clinical diagnosis.

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