

AMPQX® 10×Basic V PCR Buffer (with MgCl₂)

Cat. no. LM203022

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Product Information

Product	AMPQX® 10×Basic V PCR Buffer (with MgCl ₂)
Catalog No.	LM203022
Size	1 mL/50 mL/100mL
Storage conditions	1. This product should be stored at -20°C for 1 year. 2. The product is shipped with ice packs. 3. This product should avoid repeated freezing and thawing. It is recommended to aliquot and store.

2. Product description

AMPQX® 10×Basic V PCR Buffer (with MgCl₂) is a kit for multiplexed quantitative PCR reaction using RNA as template in combination with appropriate reverse transcriptase and hot start Taq enzyme. Reverse transcription and quantitative PCR are performed in the same reaction tube, which simplifies the experimental operation and reduces the risk of contamination.

AMPQX® 10×Basic V PCR Buffer itself does not contain dNTP, and dUTP needs to be added additionally. The Enhancer contains a factor that effectively inhibits non-specific PCR amplification and a factor that improves the amplification efficiency of multiplexed qPCR reactions, so that up to four reactions can be carried out while guaranteeing the amplification efficiency of primers.

3. Product components

Cat.	Component	LM203022 (1mL)	LM203022 (50mL)	LM203022 (100mL)
LM203022-A	AMPQX® 10×Basic V PCR Buffer	1 mL	50 mL	100 mL
LM203022-B	4 × Enhancer	2 × 1.25 mL	125 mL	2 × 125 mL
LM203022-C	250 mmol/L MgCl ₂	250 µL	12.5 mL	25 mL

4. Applicable model

1. Compatible models requiring High Rox:

ABI 5700, 7000, 7300, 7700, 7900HT Fast, StepOne™, StepOne Plus™

2. Compatible models requiring Low Rox:

ABI 7500, 7500 Fast, ViiA™ 7, QuantStudio™ 3 and 5, QuantStudio™ 6, 7, 12 k Flex

Stratagene MX 3000P™, MX 3005P™, MX 4000P™

3. Instrument model without Rox correction:

Bio-Rad CFX 96™, CFX 384™, iCycler iQ™, iQ™ 5, MyiQ™, MiniOpticon™, Opticon®, Opticon® 2, Chromo4™

Eppendorf Mastercycler® ep realplex, realplex 2s;

Qiagen Corbett Rotor-Gen® Q, Rotor-Gen® 3000, Rotor-Gen® 6000

Roche Applied Science LightCycler® 480, LightCycler® 2.0; Lightcycler® 96

Thermo Scientific PikoReal Cyclers; Cepheid SmartCycler®; Illumina Eco qPCR

5. Instructions

5.1. Recommended reaction system

Components	Volume (µL)	Volume (µL)
AMPQX® 10×Basic V PCR Buffer	3	2.5
4 × Enhancer	7.5	6.25
MgCl ₂ (250 mmol/L)	0.3-0.72	0.25-0.6
dNTP Mix (10 mmol/L each)	1.05	0.875
dUTP (Diluted into 10 mmol/L)	0.12	0.1
AMPQX® VN Enzyme Mix (UDG plus)	1.2	1
Primer/Probe Mix (10 µmol/L)	1	1
Template RNA	1-10	1-10
RNase Free H ₂ O	to 30 µL	to 25 µL

[NOTES]: Always mix well before use to avoid excessive bubbles caused by violent shocks.

- Primer concentration: multiple pairs of primers are included in Primer Mix, and usually the final concentration of each primer can be adjusted between 0.1 and 1.0 µmol/L according to the case.
- Probe concentration: The Probe Mix contains multiple probes with different fluorescence signals, and the concentration of each probe can be adjusted between 50-300 n mol/L.
- Template dilution: qPCR sensitivity is very high, it is recommended to dilute the template for use, control Ct between 20-35 is suitable.

- d. Reaction system: 25 or 30 μ L is recommended to ensure the validity and reproducibility of target gene amplification.
- e. System preparation: please prepare in the ultra-clean workbench and use gun head and reaction tube without nuclease residue; gun head with filter element is recommended. Avoid cross-contamination and aerosol contamination.

5.2. Reaction program

Reaction step	Temp.	Time	Cycles
Reverse transcription	50°C	10min	1
Predenaturation	95°C	5min	1
Amplified reaction	95°C	15sec	45
	60°C	30secc	

[NOTES]:

- Reverse recording: 42°C or 50°C.
- Amplification reaction: The temperature of the amplification reaction is adjusted according to the designed primer T_M value.
- Fluorescent signal acquisition: different qPCR detection instruments, please set it according to the minimum time limit.

6. Notes

- This product is for research use only!
- Please use the RNase free consumables during the experiment.
- For your safety and health, please wear a lab coat and disposable gloves during operation.