SapphiNStart TaqProbe qPCR Master Mix (STQMM)

Catalog #MB6048-1, 1 mL
Catalog #MB6048-5, 5 mL
Catalog #MB6048-50, 50 mL

Introduction

ScienCell's SapphireNStart TaqProbe qPCR Master Mix (STQMM) is a probe-based qPCR master mix with a "hot-start" property. STQMM is ideal for use in real-time quantitative PCR. The 2X master mix contains dNTPs, Taq DNA polymerase, and an inert blue-color loading indicator (ScienCell, catalog #GQ300G) in a single tube. The "hot-start" property achieved through ScienCell's unique chemically modified Taq DNA polymerase provides maximal inhibition of non-specific signal formation. The advanced buffer formulation provides superior specificity and efficiency with a wide linear dynamic range. The inert Sapphire-color loading indicator allows for better visualization and tracking of sample loading in qPCR plates or tubes.

Kit Components

Catalog #MB6048-1

Cat #	Item	Quantity	Storage
MB6048a-1	SapphireNStart TaqProbe qPCR Master Mix	1 mL	-20°C
MB6048b-1	Nuclease-free water	1 mL	4°C

Catalog #MB6048-5

Cat #	Item	Quantity	Storage
MB6048a-1	SapphireNStart TaqProbe qPCR Master Mix	1 mL x 5	-20°C
MB6048b-1	Nuclease-free water	1 mL x 5	4°C

Catalog #MB6048-50

Cat #	Item	Quantity	Storage
MB6048a-10	SapphireNStart TaqProbe qPCR Master Mix	10 mL x 5	-20°C
MB6048b-10	Nuclease-free water	10 mL x 5	4°C

Quality Control

DNase activity was NOT detected by incubating each component of STQMM with single-stranded and double-stranded DNA at 37 ºC for 24 hours.

Product Use

STQMM is for research use only. It is not approved for human or animal use, or for application in clinical or in vitro diagnostic procedures.

Shipping and Storage

The product is shipped on dry ice. Upon receipt, store SapphireNStart TaqProbe qPCR Master Mix (Cat #MB6048a) at -20ºC in a manual defrost freezer and nuclease-free H_2O (Cat #MB6048b) at 4ºC. Aliquot as needed. Avoid repeated freeze-and-thaw cycles and long-term exposure to light. For convenience, the SapphireNStart TaqProbe qPCR Master Mix (Cat #MB6048a) may be stored at 4ºC for up to 1 years.

Procedure

***Important: Only** use nuclease-free reagents in PCR amplification.*
***Note:** This master mix does not contain a ROX passive reference dye. If the qPCR instrument being used has a "ROX passive reference dye" option, please deselect this option.*

1. Thaw SapphireNStart TaqProbe qPCR Master Mix and place on ice.

2. Prepare 20 µL qPCR reactions in qPCR tubes or plates as shown in Table 1. For other reaction volume setup, scale up or down proportionally.

Table 1. Preparation of 20 µL qPCR reactions

Component	Volume	Final concentration
SapphireNStart TaqProbe qPCR Master Mix	10 µL	1X
Template DNA	variable	-
Nuclease-free water	variable	-
Forward and reverse primers	variable	250 – 500 nM each
Fluorogenic probe(s)	variable	150 - 250 nM each
Total volume per reaction	20 µL	-

3. Seal the qPCR reaction wells. Centrifuge the tubes or plates at 1,500X g for 15 seconds. For maximum reliability, replicates are recommended (minimum of 3).

4. Refer to Table 2 for a typical qPCR program setup. Adjust properly according to the optimized qPCR conditions for the reactions to run. Load the PCR tubes or plates into the qPCR instrument and run the program.

Table 2. A typical qPCR program setup

Step	Temperature	Time	Cycles
Taq DNA polymerase activation	95°C	10 min	1
Denaturation	95°C	20 sec	30-45
Annealing	50 - 68°C	20 sec	
Extension	72°C	20-45 sec	
Data acquisition	Plate read		
Optional	Melting curve analysis		1
Hold	20°C	Indefinite	1

5. For data analysis, please refer to the data analysis software of the qPCR instrument being used.