



BlooDirect TaqProbe qPCR Master Mix, Low ROX, 4x (BTQMMLR)

Catalog #MB6088-50, 50 mL

Introduction

ScienCell's BlooDirect TaqProbe qPCR Master Mix, Low ROX (BTQMMLR) is a probe-based qPCR master mix. BTQMMLR is designed for the direct molecular quantitation of DNA from whole blood with anticoagulants (EDTA or heparin), serum, plasma, or various culture media. It can also be used with purified DNA. The 4x formula allows for large sample volumes to be added to the reaction. The master mix contains dUTP, heat labile UNG, dNTPs, Taq DNA polymerase, low concentration ROX passive reference dye and an inert blue-color loading indicator in a single tube. 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. Optimized for fast mode on fast instruments and fast cycling conditions on standard instruments.

Kit Components

Catalog #MB6088-1

Cat #	Item	Quantity	Storage
MB6088a-10	BlooDirect TaqProbe qPCR Master Mix, Low ROX	10 mL x 5	4°C
MB6088b-10	Nuclease-free water	10 mL x 10	4°C

Item not provided

Primers

Fluorogenic probe

Samples with template DNA

Quality Control

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

Product Use

BTQMMLR 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 BlooDirect TaqProbe qPCR Master Mix Low ROX (Cat #MB6088a) at -20°C in a manual defrost freezer and nuclease-free H₂O (Cat #MB6088b) at 4°C. Aliquot as needed. Avoid repeated freeze-and-thaw cycles and long-term exposure to light. For convenience, the BlooDirect TaqProbe qPCR Master Mix Low ROX (Cat #MB6088a) may be stored at 4°C for up to 1 year.

Procedure

Important: Only use nuclease-free reagents in PCR amplification.

Note: This master mix contains low ROX passive reference dye. Select the "ROX passive reference dye" option on qPCR instrument and if needed calibrate the amplification signal by ROX dye.

1. Prepare 20 μ L qPCR reactions in qPCR tubes or plates as shown in Table 1. For other reaction volume setups, scale up or down proportionally.

Table 1. Preparation of 20 μ L qPCR reactions

Component	Volume	Final concentration
BlooDirect TaqProbe qPCR Master Mix Low ROX	5 μ L	1X
Sample with 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 μ L	-

2. 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).
3. 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
UNG incubation	37°C	2 min	1
Taq DNA polymerase activation	95°C	20 sec	1
Denature	95°C	1 sec	30-45
Anneal / Extension	60°C	20 sec	
Data acquisition	Plate read		
Hold	20°C	Indefinite	1

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