

# TaqMan<sup>®</sup> RNase P Detection Reagents Kit

100 reactions

Catalog Number 4316831

Pub. No. MAN0018429 Rev. B.0

**WARNING!** Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from [thermofisher.com/support](http://thermofisher.com/support).

## Product description

The Applied Biosystems™ TaqMan<sup>®</sup> RNase P Detection Reagents Kit contains a 20X mix of primers and probe used to detect and quantify genomic copies of the human RNase P gene. These reagents can be used with Applied Biosystems™ Real-Time PCR systems.

**IMPORTANT!** The reagents are not compatible with StepOne™ Real-Time PCR System.

The primers and probe are designed according to Primer Express™ guidelines for quantification and utilize standard thermal cycling parameters. This kit is designed to perform a 5' nuclease assay with TaqMan<sup>®</sup> Universal PCR Master Mix with genomic DNA (gDNA), plasmid DNA, or complementary DNA (cDNA).

## Contents and storage

Contents	Amount	Storage
20X RNase P Primer-Probe (FAM™ Dye) Mix	250 µL	-25°C to -15°C
Human Genomic Control DNA, 10 ng/µL	100 µL	

## Materials required but not provided

Unless otherwise indicated, all materials are available through [thermofisher.com](http://thermofisher.com). MLS: Fisher Scientific ([fisherscientific.com](http://fisherscientific.com)) or other major laboratory supplier.

Item	Source
<b>Real-time PCR Instrument, one of the following:</b>	
QuantStudio™ 3 or 5 Real-Time PCR Instrument	Contact your local sales office.
QuantStudio™ 6 / QuantStudio™ 7 Flex Instrument	
QuantStudio™ 12K Flex Real-Time PCR System	
StepOnePlus™ Real-Time PCR System	
7500/7500 Fast Real-Time PCR System	
<b>Equipment</b>	
Benchtop microcentrifuge	MLS
Plate centrifuge	MLS
Laboratory mixer (Vortex or equivalent)	MLS

Item	Source
<b>Tubes, plates, and other consumables</b>	
MicroAmp™ Optical Adhesive Film, 100 covers	4311971
Aerosol-resistant pipette tips	thermofisher.com/plastics
96-well Standard plates (0.2 mL), 96-well Fast plates (0.1 mL), 384-well Standard plates and MicroAmp™ Reaction Tubes (0.1 mL and 0.2 mL)	
<b>Reagents</b>	
Nuclease-free Water	AM9938
Master Mix, one of the following:	
TaqMan® Fast Advanced Master Mix	4444556
TaqMan® Universal PCR Master Mix	4304437
TaqMan® Universal Master Mix II	4440038
TaqMan® Gene Expression Master Mix	4369016

## Methods

### Prepare the PCR Reaction Mix

The detection range for Human Genomic Control DNA is between 50 ng to 50 pg per 20 µL reaction.

1. Prepare the PCR Reaction Mix in an appropriately sized microcentrifuge tube according to the following table.

Component	Volume per reaction <sup>[1]</sup>	
	384-well plate, 96-well Fast plate <sup>[2]</sup>	96-well Standard plate
Master Mix (2X) <sup>[3]</sup>	5 µL	10 µL
20X RNase P Primer-Probe (FAM™ Dye) Mix	0.5 µL	1 µL
cDNA Template <sup>[4]</sup> or Human Genomic Control DNA	1 µL	2 µL
Nuclease-free Water	3.5 µL	7 µL
<b>Total PCR Reaction Mix volume</b>	<b>10 µL</b>	<b>20 µL</b>

<sup>[1]</sup> Add 10% overage for pipetting loss.

<sup>[2]</sup> When using TaqMan® Gene Expression Master Mix, TaqMan® Universal PCR Master Mix, TaqMan® Universal Master Mix II, use Standard mode thermal cycling conditions.

<sup>[3]</sup> Recommended: TaqMan® Fast Advanced Master Mix.

<sup>[4]</sup> The recommended amount of cDNA for this assay is 1-100ng. The recommended amount of gDNA is 10 ng for 10 µL reaction and 20 ng for 20 µL reaction.

2. Vortex the tube to mix the contents thoroughly, then centrifuge briefly to collect the contents at the bottom of the tube.
3. Add the PCR Reaction Mix to the appropriate wells of the reaction plate.
4. Seal the plate with optical adhesive film, then vortex briefly to mix.
5. Centrifuge the plate briefly to collect the contents at the bottom of the wells.

## Set up the thermal protocol

See the appropriate instrument user guide for more detailed instructions to program the thermal cycling conditions or to run the plate.

1. Select the cycling mode appropriate for the Master Mix.

The cycling mode depends on the Master Mix that is used in the reaction and not on the Standard or Fast plate format.

2. Set up the thermal protocol for your instrument.

**Table 2** TaqMan® Fast Advanced Master Mix (StepOnePlus™ system, and QuantStudio™ systems with fast cycling mode).

Step	Temperature	Time	Cycles
UNG Incubation	50°C	2 minutes	1
Enzyme Activation	95°C	2 minutes	1
Denature	95°C	1 second	40
Anneal/Extend	60°C	20 seconds	

**Table 3** TaqMan® Fast Advanced Master Mix (7500 Fast and 7500 Real-Time PCR System with fast cycling mode).

Step	Temperature	Time	Cycles
UNG Incubation	50°C	2 minutes	1
Enzyme Activation	95°C	2 minutes	1
Denature	95°C	3 seconds	40
Anneal/Extend	60°C	30 seconds	

**Table 4** TaqMan® Gene Expression Master Mix, TaqMan® Universal PCR Master Mix, or TaqMan® Universal Master Mix II (Any compatible instrument. Use standard cycling mode).

Step	Temperature	Time	Cycles
UNG Incubation	50°C	2 minutes	1
Enzyme Activation	95°C	10 minutes	1
Denature	95°C	15 seconds	40
Anneal/Extend	60°C	60 seconds	

3. Load the plate into the real-time PCR instrument, then start the run.

## Limited product warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale at [www.thermofisher.com/us/en/home/global/terms-and-conditions.html](http://www.thermofisher.com/us/en/home/global/terms-and-conditions.html). If you have any questions, please contact Life Technologies at [www.thermofisher.com/support](http://www.thermofisher.com/support).



Thermo Fisher Scientific Baltics UAB | V.A. Graiciuno 8, LT-02241 | Vilnius, Lithuania

For descriptions of symbols on product labels or product documents, go to [thermofisher.com/symbols-definition](http://thermofisher.com/symbols-definition).

The information in this guide is subject to change without notice.

**DISCLAIMER:** TO THE EXTENT ALLOWED BY LAW, THERMO FISHER SCIENTIFIC INC. AND/OR ITS AFFILIATE(S) WILL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, MULTIPLE, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING FROM THIS DOCUMENT, INCLUDING YOUR USE OF IT.

**Revision history:** Pub. No. MAN0018429

Revision	Date	Description
B.0	12 March 2019	Corrected concentration of Human Genomic Control DNA.
A	8 January 2019	New Document. This document supersedes the <i>TaqMan® RNase P Detection Reagents (FAM™ Dye) Product Information Sheet</i> (Pub. No. 4316834)

**Important Licensing Information:** This product may be covered by one or more Limited Use Label Licenses. By use of this product, you accept the terms and conditions of all applicable Limited Use Label Licenses.

**Trademarks:** All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified. TaqMan is a registered trademark of Roche Molecular Systems, Inc., used under permission and license.

©2019 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified.

