

TaqMan® Array Plates with RFID

for use with QuantStudio™ 6 Pro and 7 Pro Real-Time PCR Systems

Pub. No. MAN0018436 Rev. A.0

Note: For safety and biohazard guidelines, see the “Safety” appendix in the *QuantStudio™ 6 Pro and 7 Pro Real-Time PCR Systems User Guide* (Pub. No. MAN0018045) and the *TaqMan® Gene Expression Assays User Guide—TaqMan® Array Plates* (Pub. No. 4391016). Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

This Quick Reference is intended as a benchtop reference for the use of a TaqMan® Array Plate with RFID on the QuantStudio™ 6 Pro and 7 Pro Real-Time PCR Systems. For detailed instrument instructions, supplemental procedures, and troubleshooting, see the *QuantStudio™ 6 Pro and 7 Pro Real-Time PCR Systems User Guide* (Pub. No. MAN0018045) and the *TaqMan® Gene Expression Assays User Guide—TaqMan® Array Plates* (Pub. No. 4391016).

Product description

The Applied Biosystems™ TaqMan® Array Plates with RFID are specialized plates with an RFID tag that the QuantStudio™ 6 Pro and 7 Pro Real-Time PCR Systems can identify. They contain dried-down TaqMan® Gene Expression Assays and are configured with an RFID tag (Cat. No. A43823) along the A1 side of the plate. The tag contains the necessary information to start a run immediately after the plate is loaded into the instrument.

After the tagged plate is loaded, the instrument reads the RFID tag and uploads the listed information.

- Plate type
- Plate barcode, expiration date, catalog number, and lot number
- Reaction volume per well
- Assay targets
- Passive reference dye (ROX™ dye)
- Thermal protocol (fast mode)

Contents and storage

To order TaqMan® Array Plates with RFID, add an RFID (Cat. No. A43823) to a TaqMan® Array Plate with a dried-down Custom TaqMan® Gene Expression Assay. For available plate layouts, see Table 1.

Table 1 Available plate layouts

Format	Cat. No. (Standard, 0.2-mL)	Number of assays + controls	Number of samples	Storage ^[1]
TaqMan® Array Plate 8	4413266	7+ 1	12	15–30°C ^[2]
TaqMan® Array Plate 16	4413264	15+ 1	6	
TaqMan® Array Plate 16 Plus ^[3]	4413265	12+ 4	6	
TaqMan® Array Plate 32	4391528	31+ 1	3	
TaqMan® Array Plate 32 Plus ^[3]	4391529	28+ 4	3	
TaqMan® Array Plate 48	4391526	47+ 1	2	
TaqMan® Array Plate 48 Plus ^[3]	4391527	44+ 4	2	
TaqMan® Array Plate 96	4391524	95+ 1	1	
TaqMan® Array Plate 96 Plus ^[3]	4391525	92+ 4	1	

^[1] See packaging for expiration date.



^[2] Shipped at ambient temperature. See thermofisher.com/ambientshipping.

^[3] TaqMan® “Plus” plates only use *human* endogenous controls; controls for other species are not supported.

Methods

Load the plate

IMPORTANT! The instrument should be used by trained operators who have been warned of the moving parts hazard.

1. Tap  (**Eject**) to open the instrument drawer.
2. Load the plate onto the block.
 - Well A1 of the plate is in the top-left corner of the block.
 - The barcode faces the front of the instrument.
 - The RFID tag is on the A1 side of the plate.
3. Tap  (**Eject**) to close the instrument drawer.

The instrument displays the **Plate Properties** screen.

(Optional) Edit thermal protocol

The RFID tag is configured with a fast thermal protocol and can be edited on the instrument before a run.





IMPORTANT! The cycling mode depends on the Master Mix that is used in the reaction. A Fast Master Mix is compatible with standard thermal protocol, but a Standard Master Mix is not compatible with a fast thermal protocol. For examples of thermal protocols see, “Thermal protocols” on page 3.

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

1. In the **Method** screen, tap **Edit**.
2. Tap a field, then enter the changes.
 - Cover temperature
 - Reaction volume
 - Temperature for any steps
 - Time for any steps
 - Number of PCR cycles
3. Tap **Save**, then select the storage location for the plate file.
4. Tap **Done**.

Run the plate

1. *(Optional)* Edit the passive reference dye.
Note: The default passive reference is ROX™ dye.
2. *(Optional)* In the **Plate properties** screen, edit the **Run Data File Name**.

3. Tap the location to send the data file.
 -  **Connect**
Note: You must be signed in with a Connect profile.
 -  **USB Device**
 -  **Network Drive**
 -  **This Instrument**

Note: This option is not available if you are using the instrument as a guest. You must be signed in.

The connection status of each location of location is displayed.

4. *(Optional)* Select **C_q Export**.


A separate CSV file is generated that shows the C_q calculation for each target when this option is selected.

5. Tap **Start run**.



The status dial is displayed. The status dial contains the following information:

- The block temperature
- The elapsed time of the run
- The status of the run

Unload a plate from the instrument

 **CAUTION! PHYSICAL INJURY HAZARD.** During instrument operation, the plate temperature can reach 100°C. Allow it to cool to room temperature before handling.


The status dial displays **Run complete** when the run is finished.

1. Tap  (**Eject**) to open the instrument drawer, then remove the plate.
2. Tap  (**Eject**) to close the instrument drawer.

Optional methods for TaqMan® Array Plates with RFID

Edit wells manually

A sample setup file can be imported instead of assigning or editing a well manually (see “Import a sample setup” on page 3).

Use the plate view () to edit a well.

1. In the **Plate** tab.
2. Tap the **Sample Information** pane, then tap **Samples**.
Note: If wells are not selected, the pane is labeled **Legend**.
3. Enter a sample name.

4. Select a sample type from the dropdown list.

- Unknown
- Standard
- No template control (NTC)

5. Tap **Done**.

Import a sample setup

This allows you to import a sample setup file. This file shows the position of each sample on the plate.

1. In the **Properties** tab, tap **Actions**, then tap **Import sample setup**.
2. In the **Import Sample Setup** screen, tap the appropriate folder, then tap the appropriate file.

Apply a different setup to the plate file

This feature allows you to use a custom plate file with the data on the RFID tag.

1. In the **Plate Properties** screen, in the **Properties** tab, tap **Actions** ▶ **Apply Different Setup**.
2. Tap the location of the plate file in the left column, then tap the template file in the right column.
3. Tap **Apply**.

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. If you have any questions, please contact Life Technologies at www.thermofisher.com/support.



Manufacturer:
Life Technologies Holdings Pte Ltd |
Block 33 |
Marsiling Industrial Estate Road 3 |
#07-06, Singapore 739256

Products:
QuantStudio™ 6 Pro Real-Time PCR System
QuantStudio™ 7 Pro Real-Time PCR System



Manufacturer:
Life Technologies Corporation |
6055 Sunol Blvd |
Pleasanton, CA 94566

Products:
TaqMan® Array Plates with RFID

For descriptions of symbols on product labels or product documents, go to 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.

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

Revision history: Pub. No. MAN0018436

Revision	Date	Description
A.0	22 April 2019	New document.

©2019 Thermo Fisher Scientific Inc. All rights reserved. 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.

Thermal protocols

The following tables provide thermal protocols for other Master Mixes that are compatible with TaqMan® Gene Expression Assays.

IMPORTANT! The cycling mode depends on the Master Mix that is used in the reaction.

Table 2 TaqMan® Fast Advanced Master Mix

Step	Temperature	Time (fast cycling mode)	Cycles
UNG incubation ^[1]	50°C	2 minutes	1
Enzyme activation	95°C	20 seconds	1
Denature	95°C	1 seconds	40
Anneal / Extend	60°C	20 seconds	

^[1] For optimal UNG activity.

Table 3 TaqMan® Gene Expression Master Mix or TaqMan® Universal Master Mix II, with UNG

Step	Temperature	Time (standard cycling mode)	Cycles
UNG incubation ^[1]	50°C	2 minutes	1
Enzyme activation	95°C	10 minutes	1
Denature	95°C	15 seconds	40
Anneal / Extend	60°C	60 seconds	

^[1] For optimal UNG activity.