TaqMan Array Plates

Ready-to-use plates with preloaded TaqMan Assays

Introduction

Manual transfer of reagents into plates during routine experimental setups can be time-consuming and tedious. Daily preparation of such plates can negatively impact overall productivity. To ease the stress and minimize the error rate, Applied Biosystems™ TaqMan™ Array Plates are designed to reduce redundant pipetting steps and minimize loading errors, making them an ideal solution for fast and easy experimental setup.

TaqMan Array Plates contain high-quality Applied Biosystems™ TaqMan™ Gene Expression Assays (TaqMan™ probe and PCR primer sets) in a convenient, dried-down, 96- or 384-well plate format. Extensive tests have found no difference in performance between TaqMan Assays supplied in solution in single tubes and assays supplied dried in a TaqMan Array Plate (Figure 1).

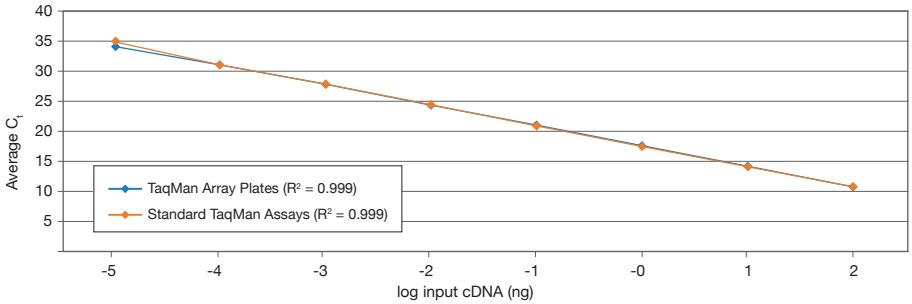


Figure 1. Linear dynamic range of TaqMan Array Plates (standard) vs. TaqMan Assays. TaqMan Array Plates have the same performance as standard TaqMan Assays (wet) on a 96-well plate. The linear dynamic range is maintained, even down to low cDNA inputs, showing the assays are unaffected by the process of drying down the TaqMan Array Plate. Each plate contained one assay (18S Hs99999901_s1) and eight replicates for each cDNA input.

TaqMan Array Plates include enough TaqMan Assay in each well for a 20 µL reaction (96-well standard plate), 10 µL reaction (96-well fast plate), or 5–10 µL reaction (384-well plate). These preloaded plates can help accelerate research in a variety of application areas, including microarray validation and pathway studies (Table 1).

- **Convenient setup**—dried TaqMan Assays in a 96- or 384-well plate; just add master mix and your cDNA sample
- **Flexible format**—choose from preconfigured to customizable TaqMan Array Plates in fast or standard formats
- **Easy data analysis**—Applied Biosystems™ analysis modules help provide rapid cloud-based data interpretation

ThermoFisher SCIENTIFIC

Table 1. Examples of published research using TaqMan Array Plates for a variety of applications.

Research focus	Title	Publication
Cancer	Benzene-poly-carboxylic acid complex, a novel anti-cancer agent induces apoptosis in human breast cancer cells	*PLoS One* 9:e85156 (2014)
Autophagy	L450W and Q455K Col8a2 knock-in mouse models of Fuchs endothelial corneal dystrophy show distinct phenotypes and evidence for altered autophagy	Invest Ophthalmol Vis Sci 54:1887 (2013)
Infectious diseases	Distinct and overlapping genomic profiles and antiviral effects of Interferon-λ and -α on HCV-infected and non-infected hepatoma cells	J Viral Hepat 19:843 (2012)
Apoptosis	Ribonuclease binase apoptotic signature in leukemic Kasumi-1 cells	*Biochimie* 95:1344 (2013)
Angiogenesis	Modulation of angiogenesis by genetic manipulation of ATF4 in mouse model of oxygen-induced retinopathy	*Invest Ophthalmol Vis Sci* 54:5995 (2013)

Versatile formats

TaqMan Array Plates are available in various formats to meet your laboratory's needs (Table 2).

- **Preconfigured (fixed-content) TaqMan Array Plates**—fixed content of the most sought-after predefined gene panels, categorized by specific disease, pathway, or biological process (Table 3)
- **Flexible-content TaqMan Array Plates**—select preconfigured pathway panels and modify with predesigned TaqMan Assays to suit your needs
- **Custom TaqMan Array Plates**—can be readily designed from more than 1.3 million predesigned TaqMan Gene Expression Assays available for 24 species, including some pathogens. Ordering is easy with the online custom TaqMan Array Plate configuration tool, which helps you find and select genes and assays. Custom TaqMan Array Plates are available in 9 different formats (Table 4).
- **Custom formatting service**—design your own TaqMan Array Plate configured to your specifications (e.g., Applied Biosystems™ TaqMan™ SNP Genotyping Assays, Applied Biosystems™ TaqMan™ Copy Number Assays, or combined mRNA/miRNA assays). Custom plating services are available for 96-well standard, 96-well fast, and 384-well plates.

Easy workflow, superior sensitivity

Save a significant amount of time setting up your experiments—just add master mix and cDNA sample, and begin cycling. The standard plate format provides real-time PCR results in about 1.5 hours, whereas the fast plate format typically delivers results in only 30 to 45 minutes.

Furthermore, you can use the optional Applied Biosystems™ TaqMan™ PreAmp Master Mix and Applied Biosystems™

Table 2. TaqMan Array Plate formats and application compatibility.

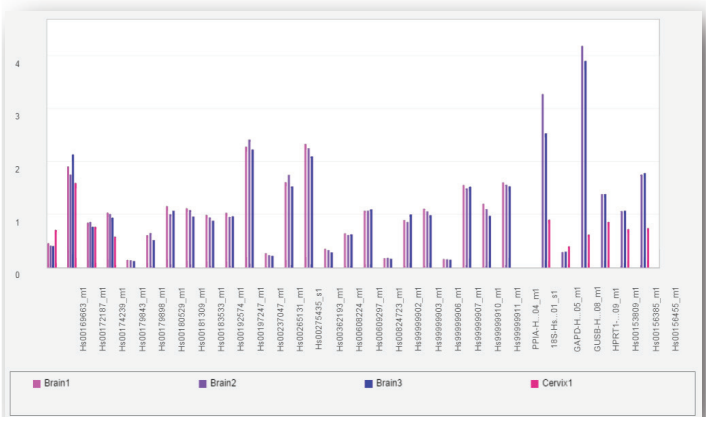
	Preconfigured TaqMan Array Plates	Flexible-content TaqMan Array Plates	Custom TaqMan Array Plates	Custom formatting service
Definition	Fixed, predefined gene panels	Modifiable predefined gene panels	Configurable predesigned assays	Client-requested designs
Web page	thermofisher.com/taqmanarrays	thermofisher.com/flexiblepanels	thermofisher.com/arrayplates	thermofisher.com/customformattingservice
Application supported				
Gene expression	√ (96-well)	√ (96-well)	√ (96-well)	√ (96-, 384-well)
MicroRNA				√ (96-, 384-well)
Genotyping				√ (96-, 384-well)

TaqMan™ Custom PreAmp Pools of assays to generate a comprehensive expression profile with far less sample input—as little as 1 ng total RNA. Preamplification can enhance the ability to detect low-abundance RNA targets and enable you to stretch your precious sample into many more real-time PCR reactions.

Powerful data analysis

Applied Biosystems™ qPCR analysis modules are free, easy-to-use cloud-based data analysis tools with analysis module options for comparative C_t analysis, also known as relative quantification (RQ), and standard curve analysis. It provides integrated analysis of multiple data sets, while offering new functionalities such as an online file storage system, flexible plate setup, analysis groups, and robust visualization to place you data fully in your control (Figure 2).

A



B

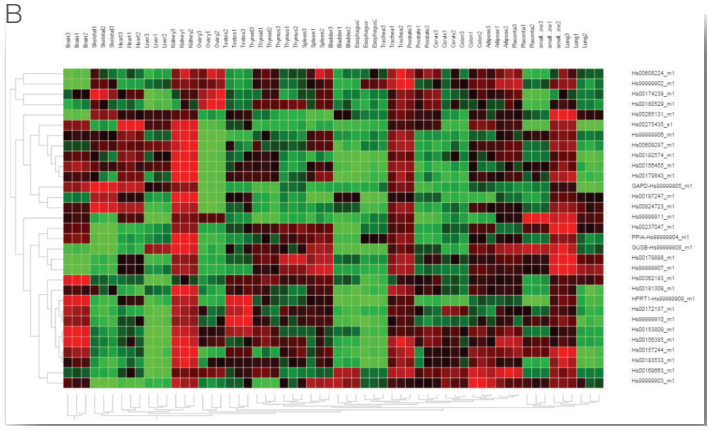


Figure 2. Example of data visualization with Applied Biosystems qPCR analysis modules. (A) Relative quantification (RQ) plot view. **(B)** Heat map view for an RQ study.

Table 3. Preconfigured TaqMan Array Plates. This is a partial list; catalog numbers in this table are for human unless otherwise noted. For the complete list, visit thermofisher.com/taqmanarrays

Preconfigured (fixed-content) TaqMan Array Plates	Cat. No. (Standard 96-well)	Cat. No. (Fast 96-well)
Antioxidant mechanisms	4414119	4418764
Apoptosis	4414072	4418717
Drug transporters	4414118	4418763
Endogenous controls	4396840	4426700
Extracellular matrix and adhesion molecules	4414133	4418778
Inflammation	4414074	4418719
Lipid-regulated genes	4415461*	4418846*
Molecular mechanisms of cancer	4414161	4418806
Phagocytosis of microbes	4414178	4418823
Rheumatoid arthritis pathogenesis	4414170	4418815
Ubiquitin-proteasome proteolysis	4414198	4418843
WNT pathway	4414100	4418745

*Cat. No. is for mouse.

applied biosystems

Table 4. Custom TaqMan Array Plate format options for 96-well plates.

Format	No. of assays + controls	No. of samples	Minimum order	Cat. No. (standard)	Cat. No. (fast)
TaqMan Array Plate 8	7 + 1	12	6	4413266	4413263
TaqMan Array Plate 16	15 + 1	6	6	4413264	4413261
TaqMan Array Plate 16 Plus	12 + 4	6	6	4413265	4413262
TaqMan Array Plate 32	31 + 1	3	6	4391528	4413259
TaqMan Array Plate 32 Plus	28 + 4	3	6	4391529	4413260
TaqMan Array Plate 48	47 + 1	2	6	4391526	4413257
TaqMan Array Plate 48 Plus	44 + 4	2	6	4391527	4413258
TaqMan Array Plate 96	95 + 1	1	6	4391524	4413255
TaqMan Array Plate 96 Plus	92 + 4	1	6	4391525	4413256

Ordering information—related products

Product	Quantity	Cat. No.
Preamplification reagents		
TaqMan PreAmp Master Mix (2X)	40 reactions	4391128
TaqMan PreAmp Master Mix (2X)	200 reactions	4488593
Custom TaqMan PreAmp Pools	250 reactions	4441856

For compatible TaqMan Master Mixes, visit **thermofisher.com/taqmanmastermixes**
For 384-well plate options, visit **thermofisher.com/customformattingservice**

Find out more at **thermofisher.com/taqmanarrays**

ThermoFisher SCIENTIFIC