

# RT<sup>2</sup> Profiler PCR Arrays (Plus)

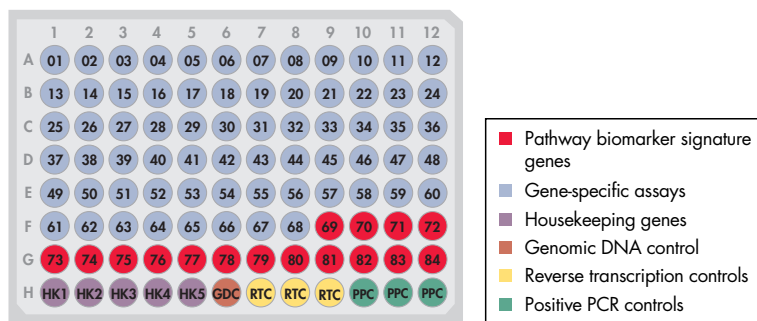
## For pathway-focused gene expression analysis and determination of pathway activity

RT<sup>2</sup> Profiler PCR Arrays (Plus) are a highly reliable, sensitive gene expression profiling real-time PCR-based technology for analyzing focused panels of genes involved in signal transduction pathways or cellular toxicity processes. Each RT<sup>2</sup> Profiler PCR Array (Plus) has a specific companion algorithm enabling determination of intracellular activity of signaling pathways or cellular toxicity level.

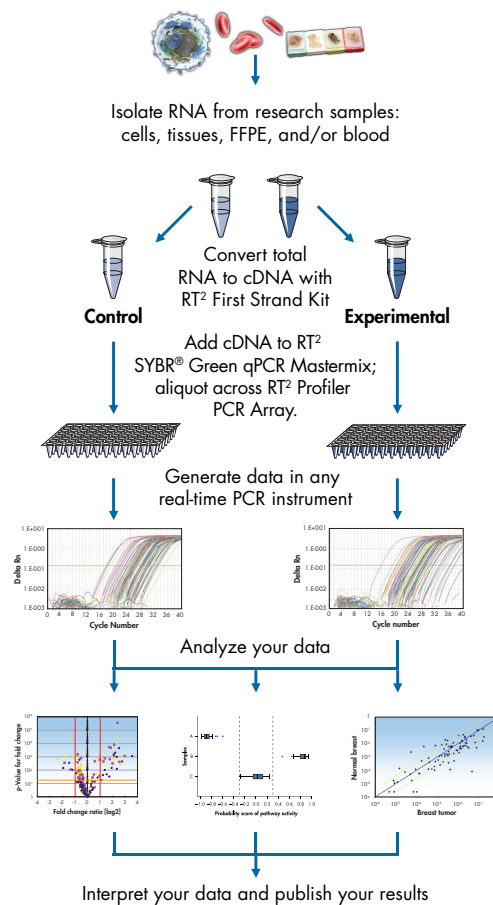
### RT<sup>2</sup> Profiler PCR Arrays (Plus) provide:

- Gene expression profiling for any lab with a real-time PCR instrument
- Pathway activity or cellular toxicity level score
- Integrated controls that assess sample quality and PCR process
- Free easy-to-use web-based data analysis tools

With RT<sup>2</sup> Profiler PCR Arrays (Plus), you can analyze the expression of the most relevant genes in your pathway of interest and determine intracellular activity status with complete confidence in your results, to build a better biological story. The RT<sup>2</sup> Profiler PCR Array (Plus) system comprises a complete experimental workflow from sample preparation through data analysis and interpretation, starting with just 25 ng (100 ng recommended for score generation) RNA, with free data analysis software. Each catalogued RT<sup>2</sup> Profiler PCR Array (Pathway Plus) incorporates laboratory-verified assays for 84 pathway-focused genes including 16 experimentally-derived biomarker signatures, 5 housekeeping genes for normalization, and controls that check for sample quality and reaction quality (Figure 1).



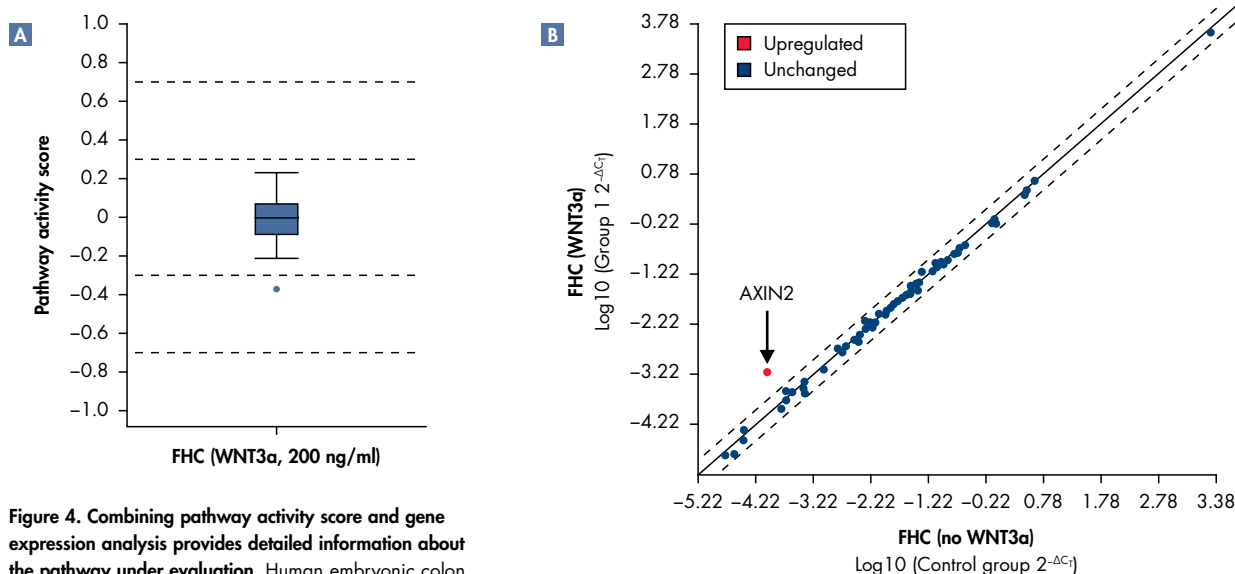
**Figure 1. Layout of RT<sup>2</sup> Profiler PCR Arrays (Pathway Plus).** Each well in an RT<sup>2</sup> Profiler PCR Array (Plus) measures the relative expression of a gene or biomarker signature related to a pathway or toxicity state. Arrays are available in 4 formats: 96-well plate, 384-well plate, 100-well disc, and 96 x 96 chip. Every format contains laboratory-verified gene and biomarker signature assays as well as comprehensive, proprietary controls to monitor genomic DNA contamination (GDC), first strand synthesis (RTC), and real-time PCR efficiency (PPC).



**Figure 2. RT<sup>2</sup> Profiler PCR Array (Plus) workflow.** Starting from cell, tissue, blood, formalin-fixed paraffin-embedded (FFPE), or laser-capture microdissection (LCM) samples, a comprehensive gene expression profile for your pathway of interest can be achieved in less than 3 hours.\*

\* Pathway activity or cellular toxicity scores cannot be generated with FFPE or LCM samples, or samples yielding less than 100 ng of high quality RNA.





**Figure 4. Combining pathway activity score and gene expression analysis provides detailed information about the pathway under evaluation.** Human embryonic colon epithelial FHC cells were treated with WNT3a ligand for 3h. **A** Pathway activity score generated by RT<sup>2</sup> Profiler PCR Arrays (Plus) indicated no change in pathway activity in FHC cells after WNTa treatment. **B** Gene expression profiling using RT<sup>2</sup> Profiler PCR Arrays (Plus) indicated the upregulation of AXIN2, a negative regulator of WNT signaling. Combined, this data suggests a negative feedback mechanism to suppress WNT pathway activity in FHC cells after WNT3a stimulation.

## Ordering Information

Product	Contents	Cat. no.
RT <sup>2</sup> Profiler PCR Arrays (Pathway Plus)	Pathway or toxicity panels of gene assays*	330231
RT <sup>2</sup> SYBR® Green qPCR Mastermixes	Reagents for real-time PCR reactions (available with ROX, fluorescein, or no internal reference dye)	Varies
RT <sup>2</sup> First Strand Kit (12)	Reagents for cDNA synthesis reactions for 12 samples	330401
RNeasy Mini Kit (50)**	Columns, plasticware, and reagents for 50 preps	74104
RNase-free DNase Set (50)	Reagents for 50 preps	79254

\* For a complete list of pathways please visit [www.sabiosciences.com/ArrayList.php](http://www.sabiosciences.com/ArrayList.php)

\*\* For cell samples. For other sample types, please visit [www.QIAGEN.com](http://www.QIAGEN.com)

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**Discover more, visit [www.sabiosciences.com/PCRArrayPlate.php](http://www.sabiosciences.com/PCRArrayPlate.php)!**

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