TaqMan® Cells-to-CT™ Control Kit

- Confirm sufficient cell input
- Monitor the presence of RT or real-time PCR inhibitors
- Use as an endogenous control for sample normalization

The TaqMan® Cells-to-CT™ Control Kit is designed for use with the TaqMan Gene Expression Cells-to-CT Kit. The Control Kit includes XenoRNA™ Control, a synthetic RNA transcript with a unique sequence that lacks homology to current annotated biological sequences, making it an ideal control for any experiment.

The Control Kit also includes a TaqMan Gene Expression Assay for the XenoRNA Control target, and a TaqMan Gene Expression Assay (ACTB) for the highly expressed endogenous control gene ß-Actin.

Ensure Valid Results: Monitor Inhibition, Confirm Sufficient Cell Input, and Evaluate Compatibility with New Cell Lines

The TaqMan Cells-to-CT Control Kit contains reagents for use in every experiment to assess inhibition and adequate cell input. For example, the XenoRNA Control confirms that samples can support RT-PCR and is an indicator of reaction inhibitors. By adding the XenoRNA Control to the Stop Solution during the last step of the cell lysis procedure, each sample is provided with a constant amount of control target that is subsequently amplified by the XenoRNA TaqMan Gene Expression Assay.

Amplification with the ß-actin Gene Expression Assay functions as an endogenous control for normalization, and ensures that the lysis reaction contains a sufficient number of cells—this is important for experiments with fewer than ~100 cells and monitors the effectiveness of cell lysis.

The TaqMan® Cells-to-CT™ Control Kit is ideal for assessing the compatibility of untested cell lines with the TaqMan Gene Expression Cells-to-CT Kit to determine the maximum number of cells that can be used per lysis reaction. For these investigations we recommend preparing serial dilutions of the cells. Prepare cell lysates with the TaqMan Gene Expression Cells-to-CT Kit, including the XenoRNA™ Control, and use each lysate in parallel real time RT-PCR procedures with the supplied XenoRNA Control and ß-actin TaqMan Assays. Depending on the experimental goals, it may also be useful to include a third RT-PCR assay that targets the gene of interest to evaluate the lower limits of cell input for target detection. An example of this type of experiment is shown in Figure 1.

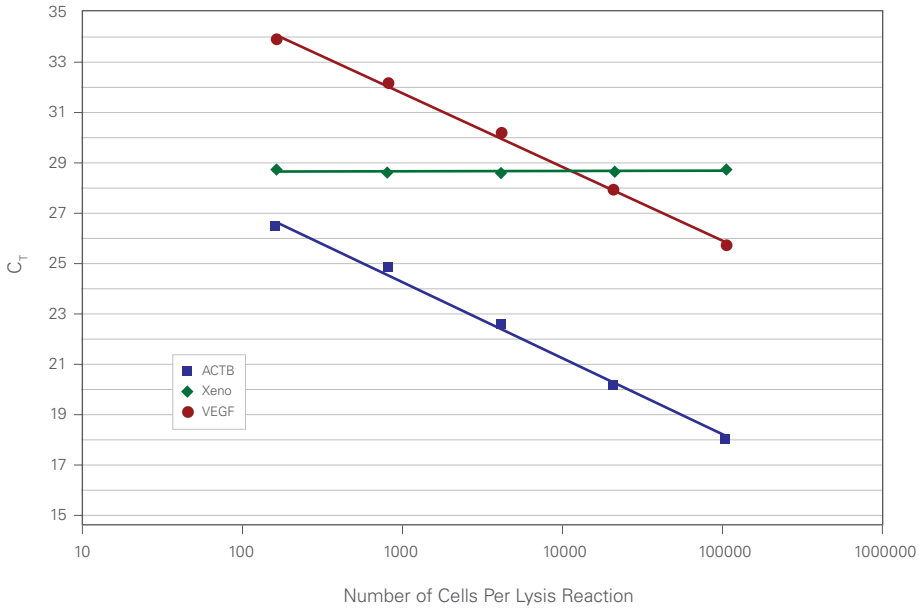

Figure 1. Pilot Experiment Identifies Maximum Number of Cells per Lysis Reaction. By adding XenoRNA™ Control to the Stop Solution used to prepare TaqMan® Gene Expression Cells-to-CT™ lysates, the XenoRNA TaqMan Assay can be used to evaluate increasing amounts of cells per lysis reaction for inhibitors of RT-PCR. In parallel, the cDNA from these same lysates can be amplified using the ß-actin assay to verify that sample lysis is adequate and that cellular RNA is available for RT-PCR.

ORDERING INFORMATION

Description	Size	Part Number
TaqMan® Cells-to-CT™ Control Kit	100 rxn	4386995
100 µL XenoRNA™ Control		
250 µL XenoRNA™ Control TaqMan® Gene Expression Assay		
250 µL ACTB TaqMan® Gene Expression Assay		

Printed in the USA. 08/2007 Publication 134PB02-01

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