

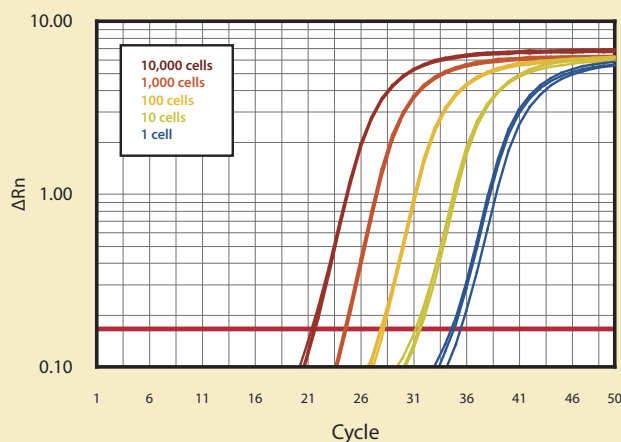
# CellsDirect™ One-Step and Two-Step qRT-PCR Kits

## Sensitive results, faster throughput with limited samples

- **Increased sensitivity**—No RNA isolation steps to contribute to sample loss and PCR inhibition
- **Significant savings**—Less hands-on time and a lower cost than RNA purification kits
- **Robust results**—Real-time detection of targets from a single cell to 10,000 cells
- **Versatility**—Compatible with a wide variety of cell lines and samples from Laser Capture Microdissection (LCM)

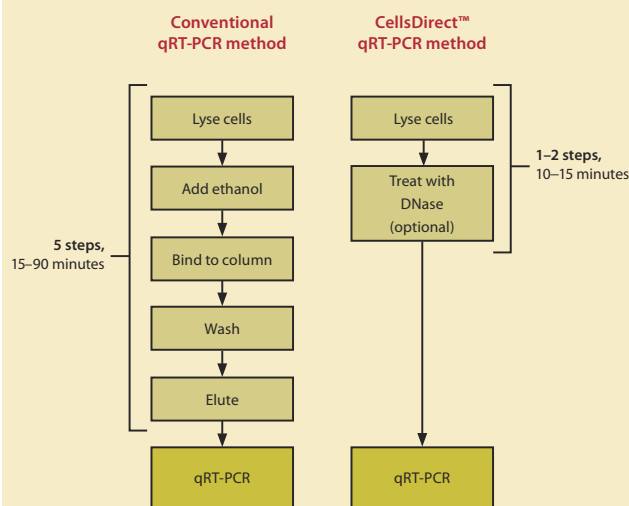
CellsDirect™ qRT-PCR kits deliver highly sensitive and specific, real-time qPCR results directly from cells, without the need for an RNA purification step. CellsDirect™ technology is designed for maximum sensitivity with small samples (Figure 1). By eliminating costly, time-consuming RNA purification procedures (Figure 2), it is especially valuable for high-throughput applications and is ideal for gene expression and RNAi knockdown experiments.

Figure 1—CellsDirect™ qRT-PCR kits provide sensitive detection down to a single cell



HeLa cells were lysed and resuspended according to the CellsDirect™ protocol. Ten-fold serial dilutions of cell lysate were prepared from 10,000 cells to one cell. A low abundance target, RRKCA, was detected using a TaqMan® probe with the CellsDirect™ One-Step qRT-PCR Kit with ROX on an ABI PRISM® 7700 instrument. Efficiency as measured from a standard curve (not shown) was 97%, with an  $R^2$  value of 0.998.

Figure 2—CellsDirect™ technology increases throughput

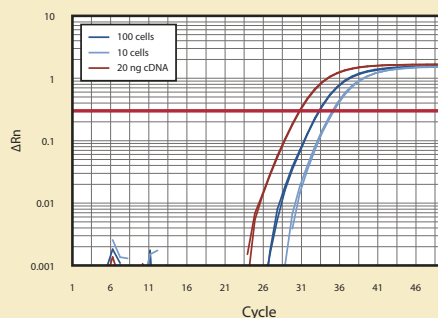


CellsDirect™ qRT-PCR technology provides a significant savings of hands-on time and cost compared to conventional qRT-PCR methods involving expensive and lengthy RNA purification steps.

### CellsDirect™ One-Step qRT-PCR Kits

CellsDirect™ One-Step qRT-PCR kits combine sensitivity with the highest level of convenience and throughput. With CellsDirect™ One-Step Kits, just add your cell lysate directly to your qRT-PCR reaction mixture, place it in your real-time instrument, and go. These kits are ideal for gene expression assays from samples collected using LCM (Figure 3).

**Figure 3—CellsDirect™ One-Step qRT-PCR Kits provide sensitive results with LCM samples**

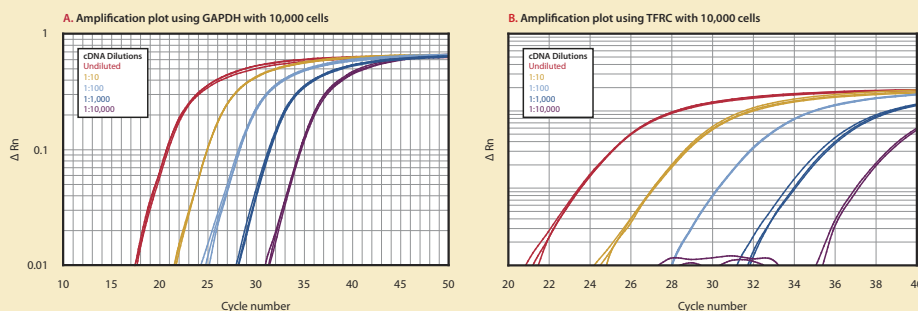


Samples were isolated from an ovine source using the LCM cap method, and cells were lysed using the CellsDirect™ protocol. A medium-to-low abundant target, MCP-1 $\alpha$ , was detected via a TaqMan® probe using the CellsDirect™ One-Step qRT-PCR kit with ROX on the ABI PRISM® 7700 instrument. Successful amplification was seen from as few as 10 cells.

### CellsDirect™ Two-Step qRT-PCR Kits

CellsDirect™ Two-Step qRT-PCR Kits provide the sensitivity of CellsDirect™ technology (Figure 4) while allowing archiving of cDNA. Two-step kits are available for either probe/primer or SYBR® Green detection.

**Figure 4—CellsDirect™ Two-Step qRT-PCR Kit detects from one to 10,000 cells**



qPCR was performed on 10-fold serial dilutions (undiluted to 1:10,000) of cDNA synthesized from 10,000 HeLa cells using the CellsDirect™ Two-Step qRT-PCR Kit. Four microliters of each dilution were added to a 50- $\mu$ l qPCR reaction containing 200 nM each primer and 100 nM TaqMan® Probe to GAPDH (Panel A; standard curve: 98% efficiency,  $R^2 = 0.9967$ ) or TFRC (Panel B; standard curve: 97% efficiency,  $R^2 = 0.999$ ). Reactions were incubated for 2 min. at 50°C, then 2 min. at 95°C followed by 50 cycles of 95°C for 15 sec.; 60°C for 30 sec. using the ABI PRISM® 7700.

### Ordering information

For sensitive, convenient qRT-PCR from limited samples, order CellsDirect™ One-Step and Two-Step qRT-PCR Kits today.

Product	Quantity	Cat. no.
<b>Kits for fluorogenic probe/primer detection</b>		
CellsDirect™ One-Step qRT-PCR Kit with ROX for ABI 7000, 7300, 7700, or 7900(HT)	100 rxns 500 rxns	11754-100 11754-500
CellsDirect™ One-Step qRT-PCR Kit for ABI 7500 and all other instruments	100 rxns 500 rxns	11753-100 11753-500
CellsDirect™ Two-Step qRT-PCR Kit for any instrument	100 rxns 500 rxns	11737-030 11737-038
<b>Kits for SYBR® Green detection</b>		
CellsDirect™ SYBR® Green Two-Step qRT-PCR Kit for any instrument	100 rxns 500 rxns	11738-060 11738-068

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