AMPLIFICATION

# SsoAdvanced™ SYBR® Green Supermix

- Robust real-time results under any conditions
- Advanced performance with short run times

## Increased Performance from Your SYBR® Green qPCR

SsoAdvanced™ SYBR® Green supermix is the newest high-performance real-time PCR supermix based on Bio-Rad's patented* Sso7d fusion protein technology. It is formulated for a wide range of qPCR applications. The dsDNA binding protein, Sso7d, stabilizes the polymerase-template complex, providing superior inhibitor tolerance, increased processivity, and greater speed without affecting PCR sensitivity, efficiency, or reproducibility.

- **Achieve superior gene expression results under various cycling conditions** — robust formulation delivers consistent performance in standard or fast cycling
- **Increase sensitivity and efficiency of detection from compromised samples** — Sso7d fusion polymerase has increased resistance to a wide variety of PCR inhibitors
- **Decrease run times and time to results without compromising qPCR data quality** — Sso7d fusion polymerase and optimized buffer provide rapid polymerization kinetics and instant polymerase activation
- **Obtain better results with predeveloped qPCR assays** — advanced formulation tolerates a broad range of reaction conditions, primer concentrations, and temperature ranges


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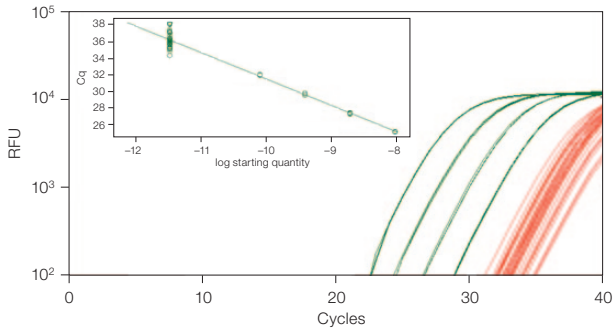
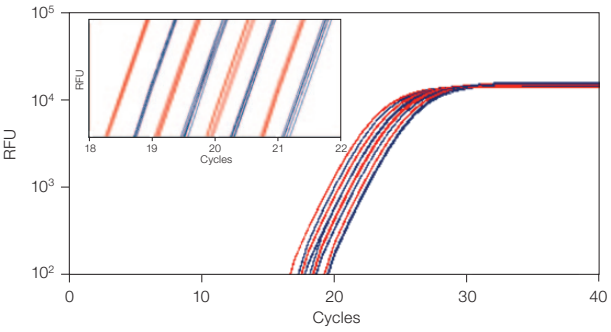
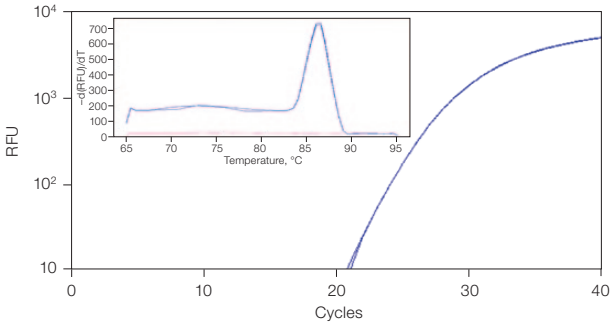


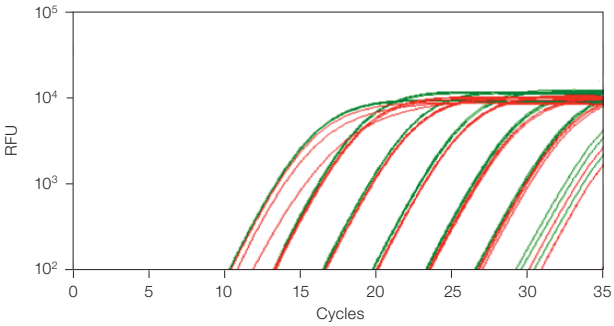

**SsoAdvanced™ SYBR® Green supermix provides extreme sensitivity in the detection of a single copy target gene.** The cyclin gene was amplified and detected from fivefold serial dilutions of 10 ng–80 pg (■) and 3.2 pg (■) human genomic DNA. Cyclin efficiency = 103%, $R^2$ = 1 (for 10 ng–80 pg). Inset shows the standard curve for the various dilutions. Cq, quantification cycle; RFU, relative fluorescence units.




**Exceptional reproducibility can be achieved with SsoAdvanced™ SYBR® Green supermix.** Efficient discrimination and reliable quantification can be obtained from a 1.33-fold serial dilution of input template. The *GAPDH* gene was amplified from varying amounts of human genomic DNA (1 ng–136 pg). From left to right: 1 ng, 753 pg, 565 pg, 425 pg, 320 pg, 240 pg, 181 pg, and 136 pg. *GAPDH* efficiency = 96.2%, $R^2$ = 0.999. Inset is a magnified view showing robust discrimination and reproducible amplification (six replicates for each input amount). RFU, relative fluorescence units.




**SsoAdvanced™ SYBR® Green supermix demonstrates superior inhibitor tolerance.** The *ADAR* gene was amplified from HeLa cDNA in the presence of water alone, or in the presence of a known PCR inhibitor, Eagle's minimal essential medium (EMEM) with fetal bovine serum (FBS; 0, 2.5, 5, 10, and 20%), added to SsoAdvanced™ SYBR® Green supermix (■) or a traditional Taq DNA polymerase–based qPCR master mix (■). SsoAdvanced™ SYBR® Green supermix showed quality amplification in all reactions (EMEM with 20% FBS data shown), while the Taq DNA polymerase–based qPCR master mix failed to amplify in all EMEM with FBS combinations (shown in the inset melt curve). RFU, relative fluorescence units.




| Start Time, hr | *GAPDH* Efficiency | $R^2$ | Slope |
|---|---|---|---|
| 0 | 100.9 | 0.998 | –3.30 |
| 24 | 101.0 | 0.999 | –3.30 |
| 48 | 98.6 | 0.998 | –3.36 |
| 72 | 99.5 | 0.999 | –3.33 |
| 144 | 101.2 | 0.993 | –3.29 |

**SsoAdvanced™ SYBR® Green supermix maintains exceptional stability on the CFX automation system.** Tenfold serial dilutions of 100 ng–1 pg cDNA from human spleen were used in each 20 µl reaction to detect *GAPDH*. All reactions were assembled and loaded onto the CFX automation system and run after varying times (0–144 hr) on the CFX96™ real-time PCR detection system. The thermal cycling conditions were 95°C for 30 sec, then 35 cycles of 95°C for 10 sec and 60°C for 30 sec. Results (*GAPDH* efficiency, $R^2$, and slope) for five time points are shown in the table above. The amplification plot shows real-time traces from 0 hr (■) and 144 hr (■). RFU, relative fluorescence units.

## Ordering Information

| Catalog # | Description |
|---|---|
| 172-5260 | **SsoAdvanced™ SYBR® Green Supermix**, 200 x 20 µl reactions, 2 x 1 ml, 2x real-time PCR mix contains dNTPs, Sso7d fusion polymerase, $MgCl_2$, SYBR® Green I, stabilizers |
| 172-5261 | **SsoAdvanced™ SYBR® Green Supermix**, 500 x 20 µl reactions, 5 x 1 ml |
| 172-5262 | **SsoAdvanced™ SYBR® Green Supermix**, 1,000 x 20 µl reactions, 10 x 1 ml |
| 172-5264 | **SsoAdvanced™ SYBR® Green Supermix**, 2,500 x 20 µl reactions, 5 x 5 ml |
| 172-5265 | **SsoAdvanced™ SYBR® Green Supermix**, 5,000 x 20 µl reactions, 10 x 5 ml |

* U.S. patents 6,627,424; 7,541,170; and 7,560,260.



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