

Eva Green q-PCR Real-Time Master Mix

Superior Performance with an Environmentally Safe Formulation

EvaGreen® q-PCR Real Time Master Mix is a ready-to-use hot-start mix for nucleic acid quantitation and melt curve analysis of PCR amplicons. Formulated using our environmentally safe EvaGreen® dye and fast-activating chemically-modified hotstart enzyme, Cheetah™ Taq, FMB's qPCR Real-Time Master mix delivers superior performance even with the most challenging samples tested. The master mix is offered in three formats containing different amounts of ROX reference dye to best suit for a variety of PCR instruments. Independent labs have confirmed that EvaGreen® dye is non-mutagenic, non-cytotoxic and safe to aquatic life for direct disposal in the drain.

Another important component of the master mix is Cheetah™ Taq, our proprietary chemically-modified hot-start DNA polymerase. Unlike AmpliTaq Gold®, which takes 10 minutes or longer to activate, Cheetah™ Taq is fully recovered in 2 minutes with high activity, making it particularly suitable for fast PCR. Cheetah™ Taq is completely inactive at room temperature and mostly free of DNA contamination. This makes Cheetah™ Taq superior to any antibody-based hotstart Taq, which is typically not completely inactive at room temperature and is prone to DNA contamination due to the nature of antibody production.

Another benefit of the EvaGreen® q-PCR Real-Time Master Mix is that you can analyze your PCR product by gel electrophoresis without the need to add another DNA-binding dye to either your loading buffer or gel. The EvaGreen® dye in the master mix can act as a DNA prestain, permitting direct and immediate visualization of DNA bands following electrophoresis.

Unrivaled PCR Performance

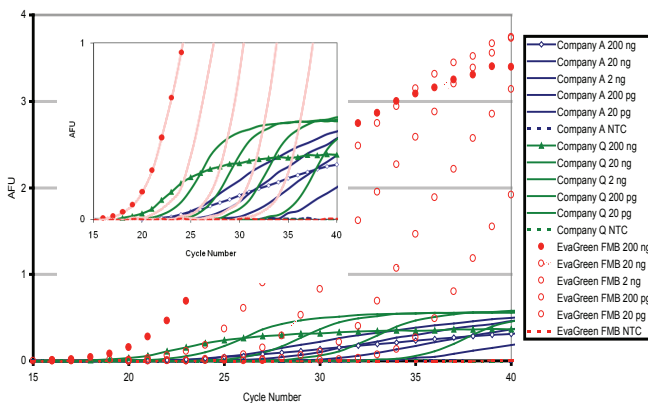


Figure 1. Comparison among EvaGreen qPCR Real Time master mix from FMB and two fast SYBR Green master mixes from two leading companies (company A and company Q) under similar conditions. The inset is an enlarged view of the area near the baseline for better viewing the curve patterns of the much weaker signals of the two SYBR-based master mixes. Amplicon: ATPG fragment of human genomic DNA; instrument: ABI 7900 Fast.

Key Features

- Formulated using the first and only safe PCR dye: EvaGreen® dye, which has passed California environmental regulation (CCR Title 22) for disposal down the drain
- Unique "release-on-demand" DNA binding mechanism of EvaGreen dye enables superior PCR and melt curve analysis results*
- Novel chemically-modified hotstart Taq, Cheetah™ Taq, requiring only 2 minutes to activate
- Compatible with both fast and regular cycling protocols
- EvaGreen dye in the master mix serving as a gel stain—Analyze your PCR product by gel electrophoresis without the need to add another gel stain

* Practicing HRM may require a license from Idaho Technologies, Inc.

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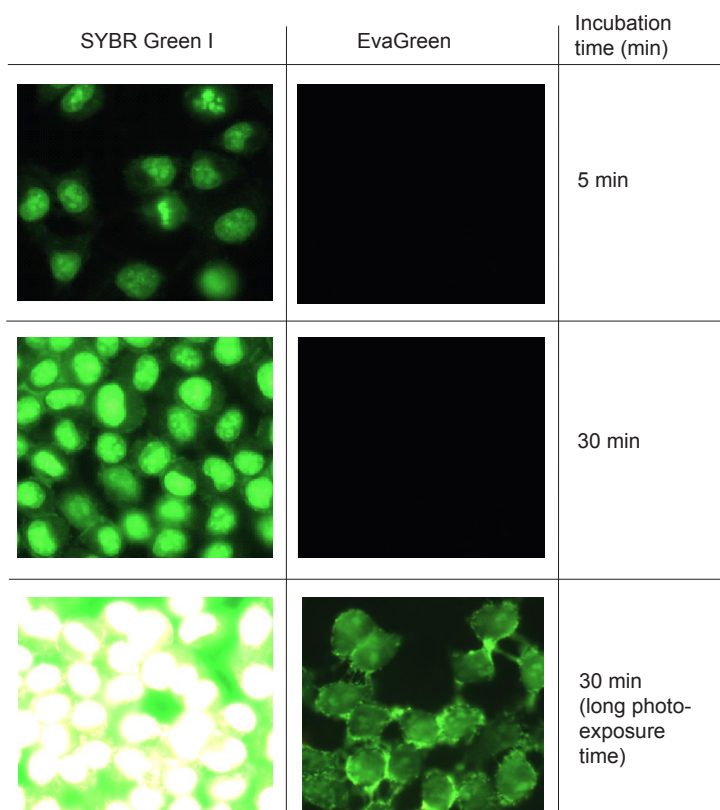
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Eva Green q-PCR Real Time Master Mix

Eva Green q-PCR Real Time Master Mix	Cat #	Packaging Size	€ Price	Components	PCR Instrument
EvaGreen® q-PCR Real Time Master Mix (with ROX)	FS-T-30031	400 rxn (4 X 1 mL)	249	Eva Green qPCR RT- Master Mix has two components: component A and component B. Component A is 2X master mix containing EvaGreen® dye, dNTP, buffer composition (including Tris and MgCl ₂) and Cheetah™ hot-start Taq polymerase. Component B is 10X Rox reference, which may be required on certain ABI instruments (See protocol)	Suitable for PCR instruments
	FS-T-30038	2,000 rxn (20 X 1 mL)	1,120		

Eva Green q-PCR Real Time Master Mix *Plus*

Eva Green q-PCR Real Time Master Mix Plus	Cat #	Packaging Size	€ price	Components	PCR Instrument
EvaGreen® q-PCR Real Time Master Mix Plus (no ROX)	FS-T-30032	400 rxn (4 X 1 mL)	285	EvaGreen® dye, dNTP, buffer composition (including Tris and MgCl ₂) and Cheetah™ hot-start Taq polymerase. Optimized for most of the non-ABI instruments which do NOT require ROX reference dye.	BioRad: iCycler, MyiQ, MiQ 2, iQ 5, CFX-96, CFX-384, MJ Opticon, Option2, Chromo4, MiniOpticon Qiagen: Roto-Gene Q, Roto-Gene3000, Roto-Gene 6000 Eppendorf: Mastercycler realplex Illumina: Eco RealTime PCR System Cepheid: SmartCycler - Roche: LightCycler 480, LightCycler 2.0
	FS-T-30033	2,000 rxn (20 X 1 mL)	1,288		
EvaGreen® q-PCR Real Time Master Mix Plus (with Low ROX)	FS-T-30034	400 rxn (4 X 1 mL)	285	EvaGreen® dye, dNTP, buffer composition (including Tris and MgCl ₂), Cheetah™ hot-start Taq polymerase and low concentration of ROX reference dye.	ABI: 7500, 7500 Fast Stratagene: MX4000P, MX3000P, MX3005P
	FS-T-30035	2,000 rxn (20 X 1 mL)	1,288		
EvaGreen® q-PCR Real Time Master Mix Plus (with High ROX)	FS-T-30036	400 rxn (4 X 1 mL)	285	EvaGreen® dye, dNTP, buffer composition (including Tris and MgCl ₂), Cheetah™ hot-start Taq polymerase and high concentration of ROX reference dye.	ABI: 5700, 7000, 7300, 7700, 7900, 7900HT, 7900HT Fast, StepOne, StepOne plus
	FS-T-30037	2,000 rxn (20 X 1 mL)	1,288		



The inability to cross cell membranes makes EvaGreen® dye the only PCR dye that is non-mutagenic, non-cytotoxic and safe to aquatic life

Figure 2. Comparison of cell membrane permeability between EvaGreen and SYBR® Green I. HeLa cells were incubated with SYBR® Green I (1.2 µM) and EvaGreen® dye (1.2 µM) at 37 °C. Photographs were taken following incubation for 5 and 30 minutes. SYBR® Green I entered cells rapidly while EvaGreen appeared membrane-impermeable as evident from the absence of cell nuclear staining. Image taking with long photo-exposure time revealed that EvaGreen dye only associated with cell membranes. SYBR® Green I has been suggested to interfere with the DNA repair mechanism in living cells, a rationale used to explain the observation that the dye is even more environmentally toxic than ethidium bromide (Ohta, et al. *Mutation Research*, **492**, 91-97(2001)). In contrast, EvaGreen® dye has been confirmed to be non-mutagenic and non-cytotoxic.