

### UptiTherm™ Real Time PCR kits

Tth DNA Polymerase optimised for use in Real-Time amplifications

- ◆ Tested in most available instruments :  
BioRad iCycler, Roche LightCycler, Cepheid SmartCycler, Applied Biosystems 7000 series and Corbett Research 3000.
- ◆ Maximum sensitivity and specificity using Green dye.

UptiTherm Real Time PCR kit allows the preparation of reaction mixtures optimised for real time amplification. The kit can be used with a wide variety of instruments, including those amplification systems in capillary tubes with air heating systems, Cepheid tubes or conical tubes used in air or block heating systems.

Description	Cat.#	Qty
UptiTherm™ Real Time PCR Master Set	UPAP160F	100 tests
	UPAP160G	200 tests
	UPAP160H	500 tests
UptiTherm™ Real Time PCR Premix in one tube	UPBN1350	100 tests
	UPBN1351	200 tests
	UPBN1352	500 tests
UptiTherm™ Real Time Probes Kit	UPAL322A	100 tests
	UPAL322B	200 tests
	UPAL322C	500 tests

Includes : UptiTherm DNA polymerase (1 U/μl), dNTP Mix (10 mM), Mix Buffer A, Mix Buffer B, MgCl<sub>2</sub> (50 mM), Green dye (UPAP160 and UPBN135 only)

### Universal Real Time PCR Master Mix Kit

- ◆ The choice for amplification of long targets
- ◆ Contain TEMPase enzyme for increased specificity and product yield
- ◆ Detection of low target copy number
- ◆ Designed to reduce the formation of non-specific product
- ◆ 2 x Master Mix in one tube. Add primers, probe and template

The Universal Real-Time PCR Master Mix is a single-tube 2X reagent ideal for most quantitative real time PCR applications. The Real Time PCR kit support quantitative amplification and detection with multiplex capability and show consistent high performance with various fluorescent detection systems including Green dye DNA I detection, TaqMan probes and Molecular beacons. The Real Time PCR kit has been designed for optimal performance on ABI PRISM™ Instruments, the LightCycler™ Instrument, the Mx4000™ Instrument and the DNA Engine Opticon™ System. The Real Time PCR kit includes the components necessary for performing PCR amplification, and have been successfully used for amplify and detect a variety of DNA target such as genomic DNA, cDNA and plasmid DNA.

To prevent template cross-contamination the master mix is designed for future UNG (Uracil-N-glycosylase) treatment by replacement of dTTP with dUTP, however the master mix does not contain the UNG enzyme in present kit version.

Description	Cat.#	Qty
Universal Real-Time PCR Master Mix	UPAP160A	200 tests

The kit contains :

- ◆ 2 x Tempage Real Time PCR Master Mix, Reference Dye, Green dye, MgCl<sub>2</sub> and glass Blocking Agents.
- ◆ Sufficient for 200 reactions of 50 μl pr. reaction.

# Amplification Products for PCR and RT-PCR

## Real Time PCR

### EvaGreen™ for Real Time PCR

The best green fluorescent DNA dye for Real Time PCR (qPCR)

- ◆ Very Little PCR inhibition
- ◆ Highly bright fluorescence: The fluorescence brightness of EvaGreen™ in qPCR is simply unmatched by competitors
- ◆ Superior stability : Unlike other green dyes, EvaGreen™ is extremely stable.
- ◆ Excellent compatibility : No need to change anything else in your existing formulation and instrument setting. The only difference you will see is a better performance.
- ◆ Compatible with most instruments.

### EvaGreen™ Shows Little Inhibition to PCR

#### EvaGreen™ is Highly Stable

EvaGreen™ is a superior fluorescent DNA stain for quantitative real-time PCR (qPCR). EvaGreen™ is truly a remarkable dye in many aspects. Upon binding to DNA, the fluorescence of EvaGreen™ is several-fold higher than that of Green dye while the dye shows very little inhibition to the PCR process. Unlike Green dye, which has been reported to be unstable (Karsai, 2002), EvaGreen™ is highly robust, both thermally and hydrolytically under alkaline or acidic condition. In addition, the absorption and emission spectra of EvaGreen™ are similar to those of Green dye or FAM, which means that the same optical setting for Green dye can also be used for EvaGreen™.

#### EvaGreen™ is compatible with most instruments :

Opticon II (MJ Research), iCycler (Bio-rad), Smart Cycler (Cepheid), Rotor-Gene 3000 (Corbette Research), ABI Prism 7700 (Applied Biosystems), LightCycler (Roche) and MX3000 (Stratagene)

Literature :  
Karsai, *et al.* BioTechniques 32(4), 790(2002)

Related product :  
See nucleic acid gel stains section

Description	Cat.#	Qty
EvaGreen™ 20x concentration	BI1790	5 x 1 ml

### Technical tip

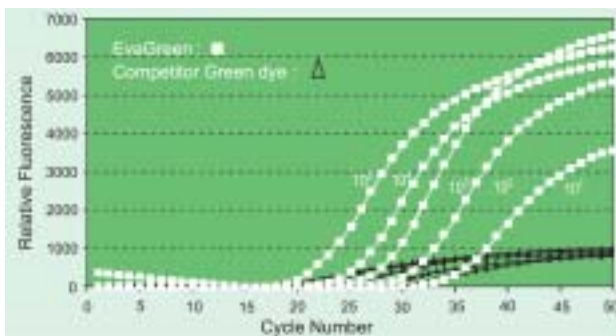


Figure 1. PCR kinetic plots using EvaGreen™ (white square) and Green dye (black triangle), respectively, in titration of human genomic DNA. DNA amplifications with Green dye were carried out using a commercial Green dye product with optimized enzyme and Green dye concentration.

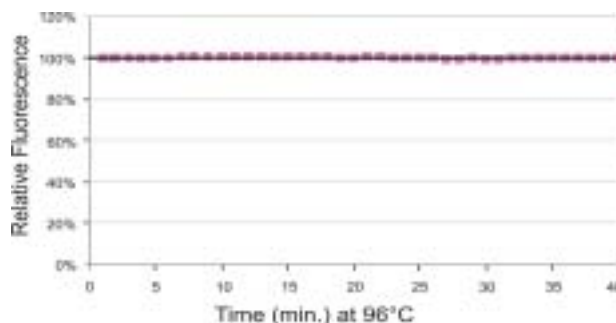


Figure 3. Stability of EvaGreen™ in the presence of DNA at 96°C. Fluorescence was recorded at 60°C and the Time axis represents total accumulated time at 96°C.

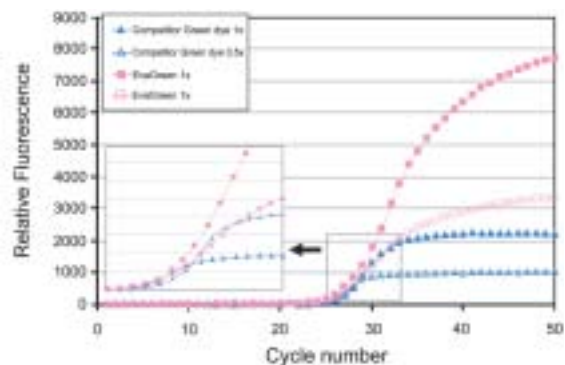


Figure 2. PCR amplification plots using EvaGreen™ and Green dye at two different concentrations. Green dye exhibits significant PCR inhibition at 1x concentration (OD=0.05) while EvaGreen does not (See inset).