

EvaGreen® Dye, 20X in Water

A patented green fluorescent nucleic acid dye with features that are ideal for applications such as qPCR, HRM®, LAMP, and digital PCR.



Product attributes

Detection method/readout	PCR/qPCR, HRM®
Excitation/Emission	500/530 nm (with DNA)
Concentration	20X (25 uM)
Storage Conditions	Store at -10 to -35 °C

Product Description

EvaGreen® Dye is a patented green fluorescent nucleic acid dye that is essentially non-fluorescent by itself, but becomes highly fluorescent upon binding to dsDNA. It is ideal for a wide variety of applications including qPCR and DNA melt curve analysis, HRM®, LAMP, digital PCR, real-time monitoring of thermophilic helicase-dependent amplification (tHDA), capillary gel electrophoresis, and more. The dye is provided at 20X (25 uM) in water.

- Brighter and less inhibitory than SYBR® Green
- Environmentally safe, non-mutagenic, and non-cytotoxic
- Unsurpassed thermal stability, chemical stability, and photostability
- Excellent compatibility with multiplex PCR
- Directly visualize amplification products in a gel
- Compatible with common qPCR instruments and enzyme systems

The Unique Properties of EvaGreen® Dye

EvaGreen® Dye was designed with a novel “release-on-demand” mechanism. In the absence of DNA, the dye assumes a conformation that is inactive. When DNA is available, the dye shifts to an active conformation that binds DNA to emit fluorescence. This property of the dye provides a unique mechanism to continuously supply the active form of the dye from an inactive reserve, as more DNA is produced during the PCR process. As a result, EvaGreen® Dye can be used at a much higher dye concentration than SYBR® Green I, resulting in a high resolution signal for digital PCR, real-time qPCR, HRM®, and multiplex qPCR by DNA melt curve analysis. This technology also makes it possible to significantly shorten the chain extension time, enabling the use of fast PCR protocols. Learn more about [EvaGreen® Dye Technology](#).

EvaGreen® Dye Applications

When bound to dsDNA, EvaGreen® Dye has excitation and emission spectra very close to those of fluorescein (FAM) or SYBR® Green I, making it readily compatible with instruments equipped with the 488 nm argon laser or any visible light excitation with wavelength in the region. In addition to qPCR and HRM, EvaGreen® Dye is currently the only qPCR dye to be used in droplet digital PCR (ddPCR). EvaGreen® can also be used for isothermal amplification, microfluidic PCR systems, capillary gel electrophoresis, and more. EvaGreen® amplification products can be directly detected on a gel without the need for another DNA gel stain. Download a list of [Selected EvaGreen® References](#) for more information.

A Safer, More Stable PCR Dye

EvaGreen® Dye is environmentally friendly, non-mutagenic, and non-cytotoxic because it is impermeant to cell membranes, unlike SYBR® Green I, which enters cell rapidly and is known to be a powerful mutation-enhancer. Download the [EvaGreen® Dye Safety Report](#) for more information. EvaGreen® Dye is more convenient to handle because it has no detectable dye decomposition in PCR buffer at 95-100 °C for 48 hours; is highly stable under either alkaline or acidic condition; and withstands repeated freeze-thaw cycles.

Our [Forget-Me-Not™ EvaGreen® qPCR Master Mix with ROX](#) as well as our [Forget-Me-Not™ EvaGreen® qPCR Master Mix with 2-Color Tracking](#) utilizes EvaGreen® Dye in a convenient ready-to-use qPCR master mix with excellent sensitivity and competitive prices. We also offer [Thiazole Green, 1000X in DMSO](#), which is identical to SYBR® Green I.

Discover New & Improved EvaGreen® Plus

[EvaGreen® Plus Dye](#) is an improved alternative that offers enhanced signal-to-noise over Biotium's original EvaGreen® Dye. These performance benefits offer advantages for a variety of DNA detection applications, including qPCR, digital PCR, and LAMP.

EvaGreen and applications are covered under granted and pending US and international patents. SYBR is a registered trademark of Thermo Fisher Scientific. HRM is a registered trademark of Idaho Technologies, Inc./BioFire Defense, LLC and its use may require a license.

References

Download list of curated [EvaGreen® Dye references](#).