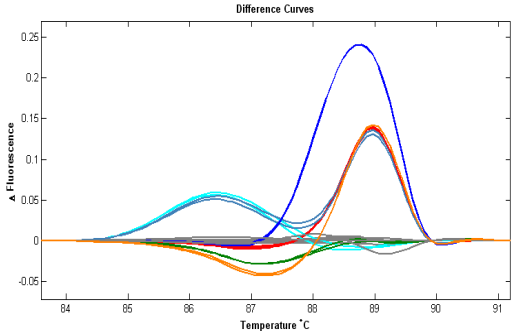
LCGreen® Plus Information Sheet

for Hi-Res Melting® curve analysis



Product Information

- LCGreen Plus is specifically designed for Hi-Res Melting® curve analysis to detect DNA sequence variants (mutations, polymorphisms, etc).
- LCGreen Plus has superb fluorescence intensity, and can be used with other fluorescence based PCR detection systems such as the Roche LightCycler®. For optimal performance, the use of a high-resolution melting instrument is required.
- Optimum excitation: 440 – 470 nm. Optimum emission: 470 – 520 nm. Spectral characteristics depend on buffer composition, pH, ionic strength, and nucleic acid content of the solution.
- Addition of LCGreen Plus increases the melting temperature (Tm) of DNA by about 1 – 3 °C, and may require adjustment of cycling parameters.
- LCGreen Plus is manufactured exclusively by BioFire and the chemical structures are unique among the scientific and patent literature.

Directions for Use

- LCGreen Plus dye is supplied as a 10X solution in 10mM Tris-HCl (pH 8.3, 0.1 mM EDTA)
- LCGreen Plus should be **used at 1X** for PCR. Add one volume of 10X solution to nine volumes of the PCR mixture.
- If you are using glass capillary tubes for PCR and/or for melting analysis, make sure your reaction mixture contains bovine serum albumin (BSA) at 250 - 500 µg/mL. BSA helps avoid enzyme, DNA and dye adhesion to the glass surface.

BIOFIRE DEFENSE

79 West 4500 South, Ste. 14, Salt Lake City, Utah 84107, USA | 1-801-262-3592 | BioFireDefense.com

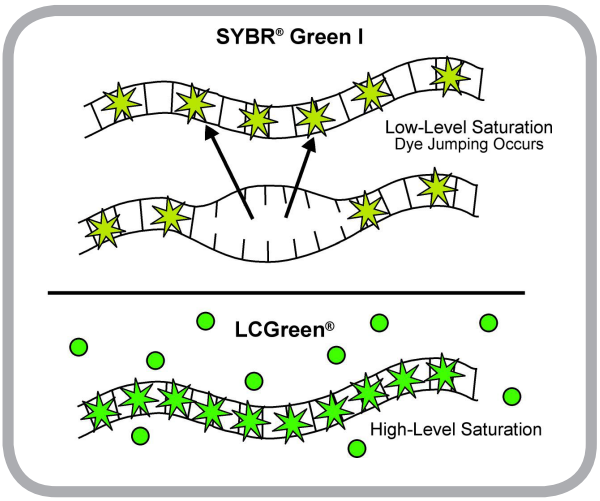
Shipping & Storage

- Product is shipped at ambient temperature.
- Store at –20 °C upon receipt. Store at 4 °C after first use.
- Product is stable for one year at –20 °C, and up to 6 months at 4 °C.

Related Products

- LightScanner Master Mix

Conventional dsDNA dyes cannot be used at high concentrations due to dye redistribution during melting curve analysis.



Saturation of dsDNA binding sites eliminates potential for dye redistribution during melting curve acquisition.

Package Sizes			
No. of Reactions*	1,000	10,000	Larger sizes Inquire
LCGreen® Plus (10X solution)	1 mL	10 X 1 mL	
Catalog No.	BCHM-ASY-0005	BCHM-ASY-0006	

* based on 10 µl reaction volume

References

Closed-Tube Genotyping with Unlabeled Oligonucleotide Probes and a Saturating DNA Dye.

Zhou L, Myers AN, Vandersteen JG, Wang L, Wittwer CT. Clin Chem., 50:1328-35, 2004

Rapid, comprehensive screening of the human medium chain acyl-CoA dehydrogenase gene.

McKinney JT, Longo N, Hahn SH, Matern D, Rinaldo P, Strauss AW, Dobrowolski SF. Mol Genet Metab. 82:112-20, 2004.

Detection of c-kit activating mutations in gastrointestinal stromal tumors by high-resolution amplicon melting analysis.

Willmore BS, Holden JA, Zhou L, Tripp S, Wittwer CT, Layfield LJ. Am. J. Clin. Path., 122:206-16, 2004.

High-resolution DNA melting curve analysis to establish HLA genotypic identity.

Zhou L Vandersteen J, Wang L, Fuller T, Taylor M, Palais B, Wittwer CT. Tissue Antigens, 64:156-64, 2004.

High-resolution melting analysis for detection of internal tandem duplications.

Vaughn CP, Elenitoba-Johnson KS. J. Mol. Diag. 6:211-6, 2004.

Rapid species identification within the Mycobacterium chelonae-abscessus group by high-resolution melting of hsp65 PCR products.

Odell ID, Cloud JL Seipp M, and Wittwer CT. Am J Clin Path 2005;123:96-101.

Validation of dye-binding/high-resolution thermal denaturation for the identification of mutations in the SLC22A5 gene.

Hum Mutat. 2005 Mar;25(3):306-13 Dobrowolski SF, McKinney JT, Amat di San Filippo C, Giak Sim K, Wilcken B, Longo N.

STR melting curve analysis as a genetic screening tool for crime scene samples.

Nguyen Q, McKinney J, Johnson DJ, Roberts KA, Hardy WR.J Forensic Sci. 2012 Jul;57(4):887-99.

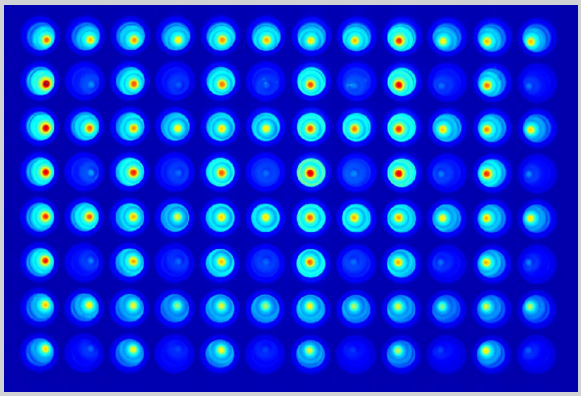
Reviews on High-Resolution Melting

Fifty Years of Molecular (DNA/RNA) Diagnostics.

Gingeras TR, Higuchi R, Kricka LJ, Lo YM, Wittwer CT. Clin Chem., 51:661-71, 2005

SNPs for sale. Cheap!

Highsmith WE Jr., . Clin Chem., 50:1296-8, 2004



DNA visualized with LCGreen Plus dye in a 96-well plate with BioFire's LightScanner instrument.

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