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VeriFluor™ Far-Red Passive Reference Dye, 400X in Water



A far-red passive reference dye for qPCR that frees up the ROX channel for use with JUN™ probes, EvaRuby™ qPCR dye, and other orange dyes.

Product attributes

Detection method/readout	PCR/qPCR
Excitation/Emission	~640/660 nm
Storage Conditions	Store at -10 to -35 °C

Product Description

VeriFluor™ Far-Red is a far-red passive reference dye that is used to normalize the fluorescent reporter signal during qPCR and eliminate well-to-well variation. It is an alternative to normalization with ROX passive reference dye and a direct replacement for Mustang Purple™.

- An alternative to ROX for qPCR normalization in the red channel
- Drop-in replacement for Mustang Purple™ on most instruments
- Tolerates DTT in qPCR reactions, unlike Mustang Purple™
- More soluble than ROX for easier mixing and more accurate results
- Stand-alone dye solution for use with our Forget-Me-Not™ Master Mixes or other mixes

Greater flexibility for qPCR normalization

A passive reference dye is required in some qPCR instruments to normalize reporter dye signal and compensate for well-to-well optical variations unrelated to the qPCR reaction. Typically, ROX passive reference dye is used for normalization. However, using ROX prevents the use of the orange emission channel for target detection in multiplex assays. VeriFluor™ Far-Red uses the red or Mustang Purple™ channel for normalization, freeing up the ROX channel for detection of probes labeled with dyes like JUN™, Cy®3.5, CAL Fluor® Red 610, or Texas Red®.

VeriFluor™ Far-Red has an Ex/Em of 640/660 nm, which makes it a drop-in replacement for Mustang Purple™ with most qPCR instruments. Unlike Mustang Purple™, VeriFluor™ Far-Red is available as a stand-alone dye solution for use with your favorite master mix. It pairs exceptionally well with our Forget-Me-Not™ Master Mixes but also performs equally well in other commercially available master mixes. Furthermore, VeriFluor™ Far-Red is highly soluble. Compared to ROX, VeriFluor™ Far-Red dissolves more easily in master mix, for improved homogeneity and more accurate qPCR normalization between wells.

Tolerates DTT in qPCR reactions

DTT, a common reducing agent used for DNA extraction, is known to quench the Mustang Purple™ qPCR passive reference dye (Forensic Sci Int Genet. 5. e5 (2015); J Forensic Sci, 66. 700 (2021)). As a result, normalization fails and the assay overestimates DNA concentration within the sample. Because VeriFluor™ Far-Red tolerates DTT (Figure 1), it can be used without altering experimental protocols to remove DTT. Similarly, quantification with EvaGreen® is unaffected by DTT (Figure 1), making these dyes an ideal pair for direct-to-PCR assays incorporating DTT.

EvaGreen Dye and applications are covered under granted and pending US and international patents. Mustang Purple, JUN, and Texas Red are trademarks or registered trademarks of Thermo Fisher Scientific. Cy Dye is a registered trademark of Cytiva. CAL Fluor is a registered trademark of Biosearch Technologies, Inc. HRM is a registered trademark of Idaho Technologies, Inc./BioFire Defense, LLC and its use may require a license.