

PRIMETIME™ qPCR PROBES

Double- and single-quenched probes for use in your 5' nuclease assays



Choose from a wide range of dyes and quenchers, including several license-free combinations



Reduce costs and waste with convenient sizes, starting from 0.5 nmol



Successfully multiplex with ZEN™ or TAO™ Double-Quenched Probes for lower background fluorescence, increased endpoint signal, and reduced crosstalk



Begin your project sooner with rapid shipment for most probes

DYES AND QUENCHERS FOR EVERY EXPERIMENT

PrimeTime qPCR Probes can be used in demanding applications such as multiplexing and digital PCR. PrimeTime qPCR Probes are available in a wide variety of dye-quencher combinations (**Table 1**) that are compatible with common qPCR instruments.

CONSISTENT RESULTS

All PrimeTime probes are HPLC purified, and then quality controlled via mass spectrometry, to deliver batch-to-batch consistency and minimize the need for troubleshooting.

Table 1. Commonly used fluorophores and quenchers.

Fluorophore	Emission wavelength (nm)	Quencher
6-FAM*	520	ZEN/Iowa Black™ FQ
SUN™*	554	
JOE™*	555	
HEX*	555	
MAX™*	557	
Cy® 3	564	Iowa Black RQ††
ATTO™ 550§	575	
ROX	608	
Texas Red® -X	617	
ATTO 647N§	662	
Cy 5¥	668	
Cy 5.5	706	

* Probes with 6-FAM, SUN, JOE, MAX, or HEX fluorophores are also available as traditional, single-quenched probes with either Iowa Black FQ (license free) or Black Hole Quencher-1 (additional third-party licenses required for diagnostic use).

† Black Hole Quencher-2 (BHQ2) may also be used as a quencher (additional third-party licenses required for diagnostic use).

‡ Double-quenched probes available as a custom order.

§ ATTO-labeled probes available as a custom order.

¥ Cy 5 is also available as a single-quenched probe with BHQ2 (additional third-party licenses required for diagnostic use).

¶ Available as research use only.

For Research Use Only. Not for use in diagnostic procedures.

> WWW.IDTDNA.COM

ENHANCE YOUR ASSAYS WITH DOUBLE-QUENCHED PROBES

Enhance your assays and reduce background with ZEN or TAO Double-Quenched Probes. Our internal quenchers are 9 bases from the 5' fluorophore and work in combination with the 3' Iowa Black quencher (Figure 1).

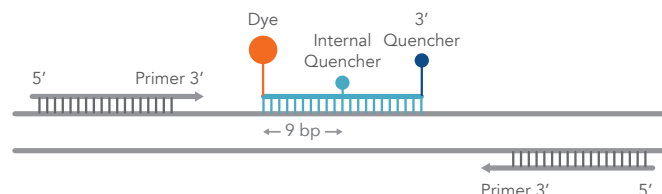
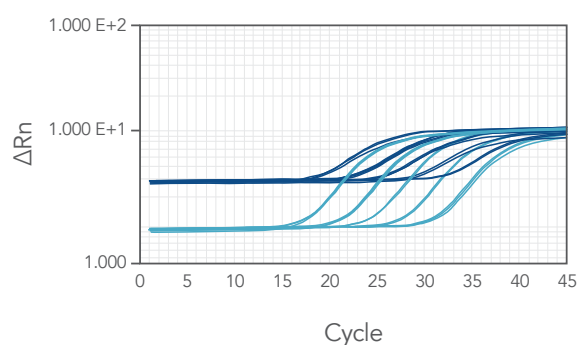


Figure 1. Schematic of a PrimeTime qPCR 5' Nuclease Assay using a double-quenched probe that includes a dye, a ZEN or TAO internal quencher, and a 3' quencher.

With nearly 4 times lower background fluorescence (Figure 2A) and approximately 30% increased signal (Figure 2B), ZEN Double-Quenched Probes simply perform better. See data for TAO Double-Quenched Probes at www.idtdna.com/qPCRprobes.

A. Lower background



B. Single vs. double-quenched probes

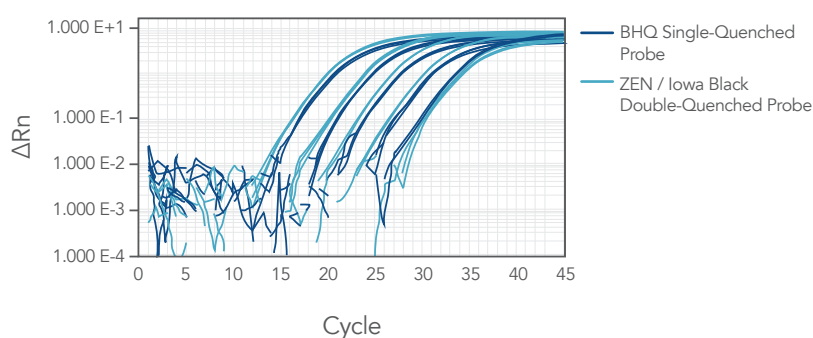


Figure 2. Increased signal from ZEN Double-Quenched Probes. (A) ZEN Probes (light blue) provide greater dye quenching, producing lower background and, therefore, higher signal intensities than standard single-quenched probes (BHQ Probes; dark blue). (B) ZEN Probes show earlier observed C_q values compared to standard, BHQ single-quenched probes.

QUENCHING FOR LONG PROBES

Effective quenching for ZEN Double-Quenched Probes as long as 40 bases (Figure 3) means more effective designs, even for AT-rich targets.

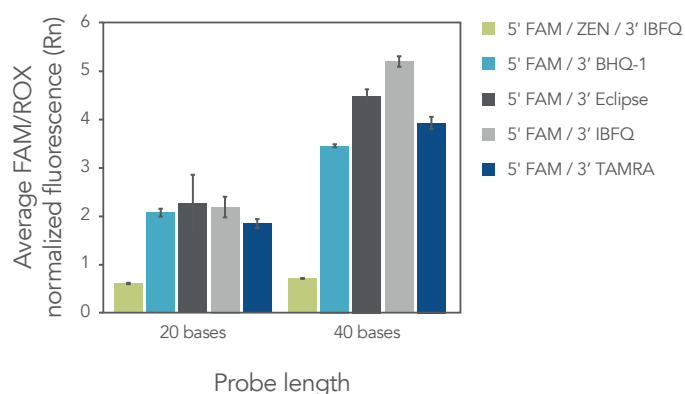


Figure 3. Only ZEN Double-Quenched Probes maintain low background signal with increasing probe length.

Probes of 2 lengths (20 or 40 bases) with 5 different quenchers were compared in 10 single-plex qPCRs. Six replicate reactions with each probe type were run with 50 ng of cDNA and the TaqMan™ Gene Expression Master Mix (Thermo Fisher Scientific) under standard cycling conditions on the Applied Biosystems 7900HT system. Key: IBFQ = Iowa Black FQ Quencher (IDT); BHQ-1 = Black Hole Quencher-1 (Biosearch Technologies); MGB Eclipse® = Eclipse quencher (ELITech Group).

ORDERING INFORMATION

Visit www.idtdna.com/qPCRprobes to enter your sequence and choose modifications.

> FOR MORE INFORMATION, VISIT WWW.IDTDNA.COM/qPCRPROBES