PrimeTime® qPCR Probes

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

Dyes and quenchers for every experiment

PrimeTime qPCR Probes provide reliable sensitivity even in demanding applications such as multiplexing and digital PCR. PrimeTime qPCR Probes are available in a wide variety of dye-quencher combinations (Figure 1) that are compatible with common qPCR instruments.

Achieve consistent results

All PrimeTime Probes are verified by mass spectrometry and HPLC purified, delivering batch-to-batch consistency to minimize the need for troubleshooting.

Fluorophore*	Emission wavelength (nm)	Quencher
6-FAM	520	ZEN™–Iowa Black® FQ†
TET™	539	
HEX™	555	
JOE	555	
Yakima Yellow®	549	
VIC®‡	554	
Cy® 3	564	Iowa Black® RQ‖
ATTO™ 550§	575	
NED™‡	575	
TAMRA	583	
ABY®‡	580	
ATTO® 565§	591	
PET®‡	595	
ROX	608	
Texas Red®-X	617	
JUN®‡	617	
ATTO™ 633§	657	
LIZ®‡	655	
ATTO™ 647§	669	
Cy® 5	668	TAO™–Iowa Black® RQ¶

benefits

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

Reduce costs and waste with convenient sizes (0.5 nmol and up)

Successfully multiplex with ZEN™ or TAO™ Double-Quenched Probes:

- Lower background fluorescence
- Increased endpoint signal
- Reduced crosstalk

Begin your project sooner with rapid shipment for most probes

Discover more at
www.idtdna.com/qPCRprobes

Figure 1. Commonly used fluorophores and quenchers.

* Except where noted, the fluorophores in this chart are free of licensing fees and can be ordered from www.idtdna.com, Custom qPCR Probes page.

† Probes with 6-FAM, TET, HEX, or JOE fluorophores are also available as traditional, single-quenched probes with Black Hole Quencher®-1 (BHQ®-1, additional third-party licenses required for diagnostic use).

‡ For reference only. Not available through IDT.

§ Probes with ATTO™ Dyes can be ordered at www.idtdna.com, Custom DNA Oligos page.

‖ Black Hole Quencher-2 (BHQ®-2) may also be used as a quencher. However, additional third-party licenses are required for diagnostic use.

¶ Cy® 5 is also available as a traditional, single-quenched probe with Iowa Black® RQ (license free) or BHQ®-2 (additional third-party licenses required for diagnostic use).

Improve assay sensitivity with double-quenched probes

Reduce background and increase assay sensitivity with ZEN or TAO Double-Quenched Probes. Our exclusive internal quenchers are always 9 bases from the 5′ fluorophore and work in combination with the 3′ Iowa Black® quencher for maximum probe performance (Figure 2).

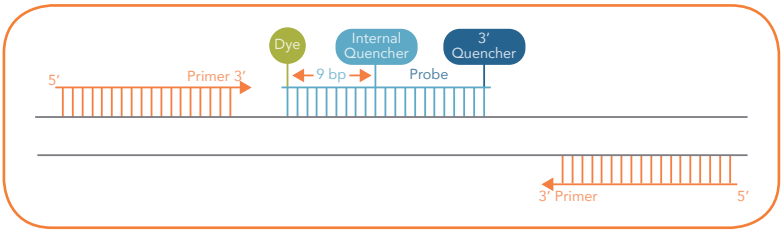

Figure 2. Schematic of a PrimeTime® qPCR 5′ Nuclease Assay using a double-quenched probe that includes a dye, a ZEN™ or TAO™ internal quencher, and a 3′ quencher.

With nearly 4 times lower background fluorescence (Figure 3A) and approximately 30% increased signal (Figure 3B), ZEN Double-Quenched Probes simply perform better.

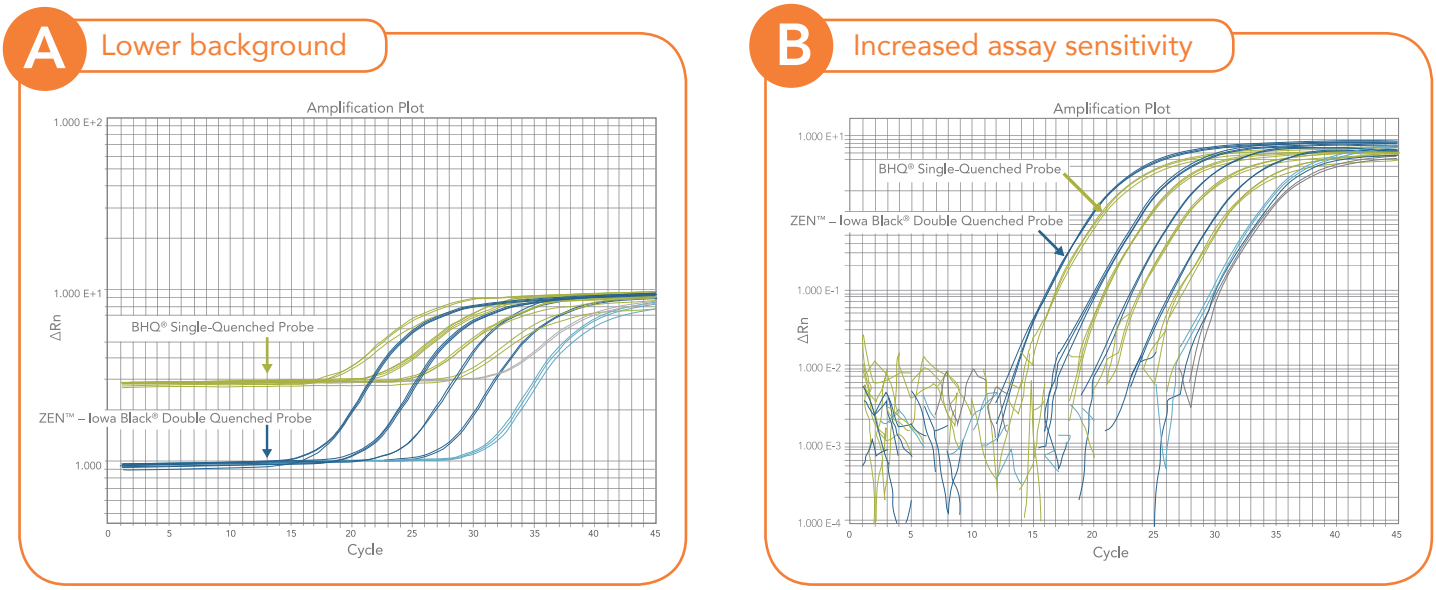

Figure 3. Increased signal detection and assay sensitivity from ZEN™ Double-Quenched Probes. (A) ZEN Probes (blue) provide greater dye quenching, producing lower background and, therefore, higher signal intensities than standard single-quenched probes (BHQ® Probes; green). **(B)** ZEN Probes increase assay sensitivity, as demonstrated by the earlier C_q values observed compared to standard, BHQ single-quenched probes.

Achieve maximum quenching for long probes

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

Visit **www.idtdna.com/qPCRprobes** to view performance data for TAO Double-Quenched Probes or probes as long as 40 bases.

Ordering information

Product	Synthesis scale	Minimum guarantee
ZEN™ Double-Quenched Probes	100 nmol	15 nmol
	250 nmol	25 nmol
	1 µmol	150 nmol
Standard Level* Custom Probes	100 nmol	10 nmol
	250 nmol	25 nmol
	1 µmol	150 nmol
Complex Level* Custom Probes, including TAO™ Double-Quenched Probes	100 nmol	2nmol
	250 nmol	8 nmol
	1 µmol	20 nmol
PrimeTime® Express qPCR Probes	100 nmol	5 nmol

Product	Delivery amount
PrimeTime® Mini qPCR Probes	0.5 nmol
PrimeTime® Eco qPCR Probes	2.5 nmol

Related products and services	Size	Catalog #
PrimeTime® Gene Expression Master Mix	1 X 5 mL	1055772
	5 X 5 mL	1055771
PrimeTime® qPCR Assays (probe-based)	Order at **www.idtdna.com/PrimeTime**	

Interested in GMP and third-party manufacturing (OEM) options? Contact **gmpinfo@idtdna.com** or **tpmi-solutions@idtdna.com** for more information.

* Standard and Complex Levels determined by fluorophore or quencher(s) selected

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

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