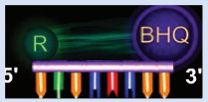
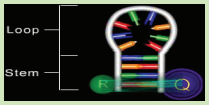
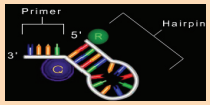
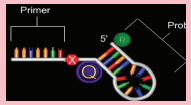
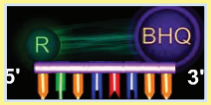
BIOSEARCH TECHNOLOGIES
Advancing Nucleic Acid Technology℠

Probe and Primer Comparison Chart

qPCR Chemistries	TaqMan®	Molecular Beacons™	Amplifluor® Primers	Scorpion™ Primers	Plexor™ Primers	BHQplus™ Probes
Structure	Linear 	Stem and Loop 	Stem and Loop with Primer 	Stem and Loop with Primer 	Labeled Primers with Modified Bases 	Linear 
Key Traits	» Dual-labeled, linear, sequence specific probe » Used with a pair of forward and reverse primers	» Dual-labeled hairpin probe with sequence specific loop » Used with a pair of forward and reverse primers	» Dual-labeled hairpin with sequence specific primer » One reverse primer	» Dual-labeled hairpin probe with sequence specific loop and primer » One reverse primer	» One forward primer, with modified iso-dC and 5′ fluorophore » Modified iso-dG with quencher in reaction mix	» Same key traits as TaqMan Probes » Compact oligos fortified for binding stabilization
Specificity	****	*****	***	*****	***	*****
Advantages	» Simplicity of design » Great value with powerful multiplexing capabilities	» Very low baseline fluorescence » High level of specificity with hairpin structure » Excellent Signal:Noise	» Very low baseline fluorescence » Easily adaptable for different applications	» Unimolecular structure incorporates both probe and primer » Fast amplicon detection » Excellent Signal:Noise	» Simplest to design (only primers) » Does not require a separate probe » Powerful multiplexing capabilities	» Shortened sequences permit enhanced target specificity » Discriminate difficult targets such as SNPs and AT-rich regions
Design Software	RealTimeDesign™	Beacon Designer PREMIER Biosoft	RealTimeDesign™	Beacon Designer PREMIER Biosoft	Promega Plexor Primer Design Software	RealTimeDesign™
Common Applications	Gene Expression In-Vitro Diagnostics Allelic Discrimination	Gene Expression In-Vitro Diagnostics Allelic Discrimination	SNP Detection Gene Expression	Gene Expression SNP Detection In-Vitro Diagnostics Allelic Discrimination	Gene Expression SNP Genotyping	SNP Genotyping

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