



3rd generation Real-Time PCR primers and probes

PentaBase™ is offering the newest probes and primers for real-time PCR with all the advantages known from previous technologies and on top of that reduced background and increased signal-to-noise ratios. The primers and probes are very easy to implement and requires no special equipment, training or consumables.

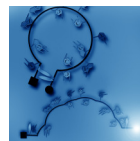
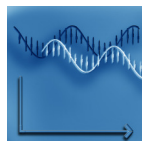
EasyBeacons™

EasyBeacons™ are nuclease resistant probes used in 3-step Real-time PCR, End-point readings and *in situ* hybridizations. Like Molecular Beacons, EasyBeacons™ are quenched when the probes are unbound, but fluoresce at hybridization to a target sequence. However, unlike Molecular Beacons, EasyBeacons™ do not require an internal stem to be quenched efficiently and are quenched at all temperatures when not bound to its target. The hydrophobic modifications of EasyBeacons™ will, by having hydrophobic interactions with each other in the unbound probe, ensure that the quencher and the fluorophore are kept in close proximity, hence resulting in an efficiently quenched probe with a low background fluorescence. Due to the nuclease resistance of EasyBeacons™, they can also be used for end-point detection or verification of your amplicon. This is a valuable feature, especially if you want to discriminate between almost similar genetic sequences like SNPs, alleles methylation or want quality control on your quantification assay.

HydroEasy™ Probes

HydroEasy™ Probes are developed to provide TaqMan® users, TaqMan®MGB users and users of *all* other hydrolysis probes with a probe giving them an improved assay with a significantly better signal-to-noise ratio, a higher specificity and a higher sensitivity. A HydroEasy™ Probe is like your standard probe, labeled with a standard fluorophore and quencher of your choice, but also added our proprietary pentabases to improve performance.

OBS! Use of Rox combined with PentaBase's probes is not recommended.

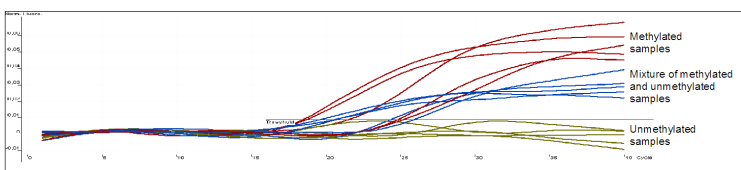


SuPrimers™

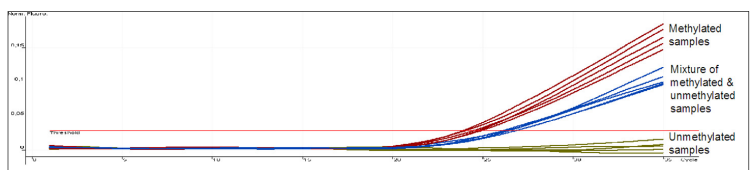
SuPrimers™ are developed in order to give our customers the very best conditions for obtaining a perfect PCR or Real-time PCR assay. SuPrimers™ are DNA primers modified with our proprietary pentabases and compatible with all applications of your standard primers. SuPrimers™ reduces or eliminates primer-dimer formation and gives you an even higher sensitivity, specificity and a much better temperature range of *all* your assays! Do you need to run several assays at the same conditions? Order primers and SuPrimers™ to reduce optimization significantly.

Examples

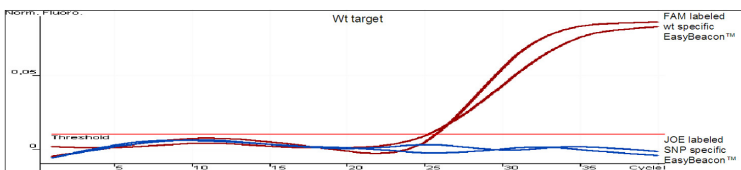
PentaBase's Real-Time PCR technologies are excellent for detection of SNPs, mutants, methylations (^{Me}CpG), alleles, consensus sequences, expression etc. Below are shown a few examples where PentaBase's technology has been applied:



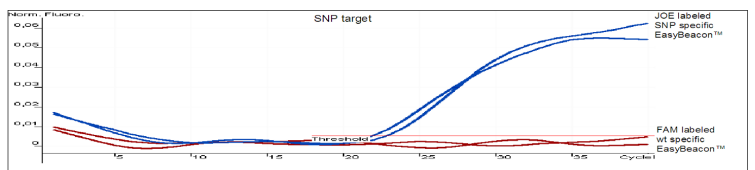
Real-Time detection of methylation status of a single CpG using EasyBeacons™. Can be analysed in scatter plots also.



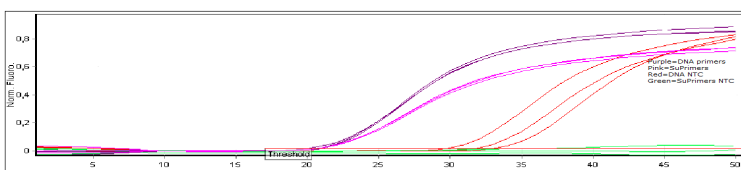
End-point detection/verification of the methylation status of a single CpG using EasyBeacons™



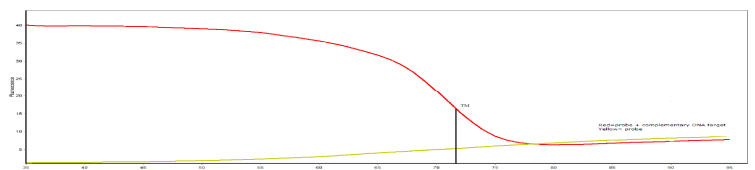
Allele specific detection with HydroEasy™ probes in a multiplex reaction having both wt and SNP specific probes in the reaction.



SNP detection with HydroEasy™ probes. Multiplex reaction with probes for both the wild type and the Single Nucleotide Polymorphism



By changing the DNA primer sequence into SuPrimers the primer-dimer problem was removed



An example of data obtained from an affinity study. PentaBase performs such a study on every probe manufactured. The height of the signal indicates the potential of the fluorophore. Halfway on the step slope is defined as the Tm of the probe.