TIB Molbiol Custom Assay Design

Finding the optimal solution for your project

TIB Molbiol is a biotech company who has supplied the global market for over 30 years with reagents for research and medical diagnostics. We are known for our innovation, product quality, design and time to market.

Our experts support assay design requests beyond the scope of self-service tools and can help redesign assays that are not performing to your requirements. Assay design services are intended for singleplex experiments and are not checked for compatibility with other assays (multiplex).

Need help or inspiration?
Do not hesitate to inquire: design@tib-molbiol.de

Our custom design service starts as low as 200 euros for simple in silico designs. Consult with our specialized team who can assess your project's requirements and provide you with a quote for a tailored solution.
They can help with designing assays, optimizing experimental conditions, and providing performance-validated kits for your specific needs.

The process can take 4-8 weeks depending on complexity. The assays are not intended to be used with the cobas® systems.

TIB Molbiol Syntheselabor GmbH
Eresburgstrasse 22-23, D-12103 Berlin
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More info on www.tib-molbiol.de

Digital LightCycler® design options

- TaqMan® Probes (detection, endpoint genotyping, expression analysis)

LightCycler® design options

- TaqMan® Probes (multiplex, detection, endpoint genotyping, expression analysis)
- SimpleProbes® design (singleplex, genotyping)

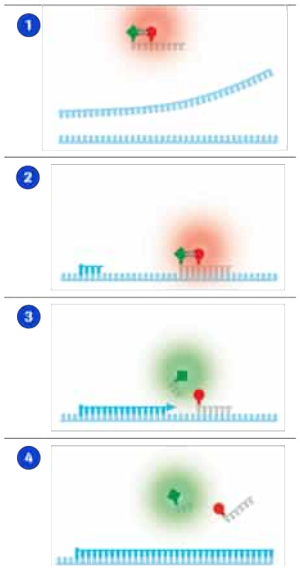
LightSNiP assays

- We offer a variety of high demand LightSNiP Kits - please order by the RS number and gene name. All available LightSNiP Kist can be found on our Homepage.

https://www.tib-molbiol.de/products/custom-pcrkits-assay-design-service

TaqMan ® Probes

TaqMan® Probes are a type of hydrolysis probe commonly used in molecular biology and diagnostics. They are designed with a fluorophore and a quencher molecule, similar to other hydrolysis probes. TaqMan® probes bind to the target DNA and, upon cleavage by the polymerase, release the fluorophore from the quencher, enabling the detection and quantification of the target during the amplification process. TaqMan® probes offer high specificity and sensitivity, making them suitable for various applications such as gene expression analysis, genotyping, pathogen detection, and mutation analysis.



They are widely used and compatible with various instruments like the LightCycler® 480, LightCycler® PRO, Digital LightCycler®, cobas® z 480 and cobas® 5800/6800/8800

TaqMan® Probes are available in final quantities of 3 nmol, 6 nmol, 15 nmol, 30 nmol and 150 nmol, as well as OD range from 1-30 OD (300 pmol for evaluation of new design).

Flourophore 5’	Ab/Em[nm]	Quencher3’
FAM	494/515	TMR,BHQ1,BHQ2,BBQ, DB
TET	521/536	
YAK	524/551	
HEX	535/555	
TAMRA	546/579	
CY3	552/565	BHQ2, BBQ
CY5/LC670	651/674	
CY5.5/LC705	678/703	

TaqMan® Probes with amidite-dye Reporter

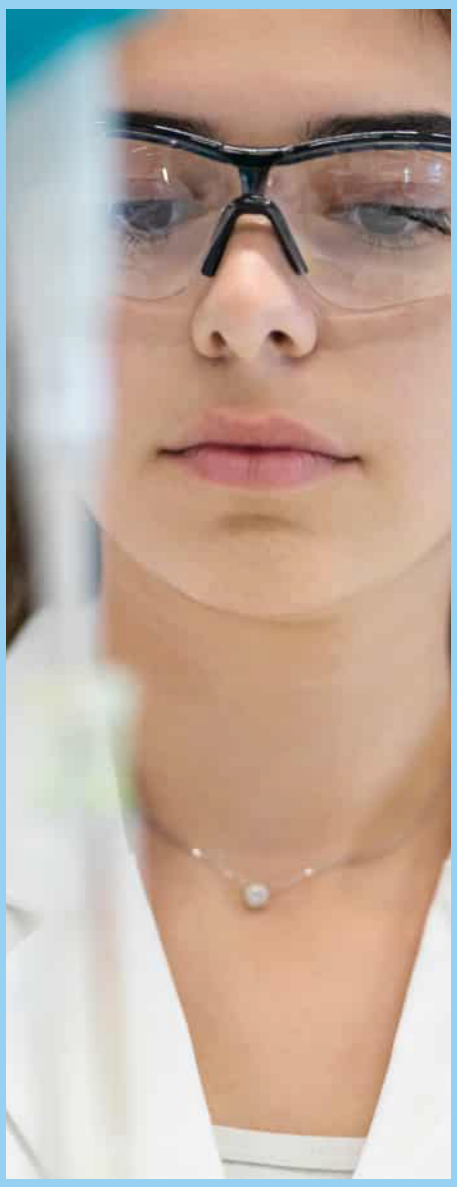
The following dyes can be selected: 6FAM, Coumarin, TET, HEX, YAK, Cy3, Cy5, Cy5.5, LC670 and any Quencher such as TAMRA, DB, BBQ, BHQ-1, BHQ-2. Internal placed quencher with BHQ1 and BHQ2 and a 3´blocker for double quenched probes can be selected.

TaqMan® Probe Ester dye

The following dyes can be selected: Cyan500, R6G, JOE, ROX, TEXAS Red, LC610, LC640 or DYXL and any Quencher such as; TAMRA, BBQ, BHQ-1, BHQ-2. More than 50 different esters are available on request and internal placed quencher with BHQ1 and BHQ2 and a 3´blocker for double quenched probes can be selected.

Minor Groove Binder (MGB) Modifications

3' Minor Groove Binder (MGB) is a small molecule that binds to the minor groove of the DNA duplex formed by the target DNA and the probe. This binding stabilizes the duplex, leading to an increase in the melting temperature (Tm) of the duplex. This increased stability is beneficial because it enhances the specificity of the probe-target interaction and allows for the design of a shorter probe.



Primers

Primers are available in standard quantities of 5 nmol, 10 nmol and 15 nmol up to 30 bases.
Gel purified (GSF) - suitable for standard oligonucleotides up to 30 bases. HPLC - improves the sensitivity and specificity of the PCR reaction and recommended for oligonucleotides longer than 40 bases.

Modifications: phosphate, biotin, amino linker, methylation and alkylation can be offered on request.

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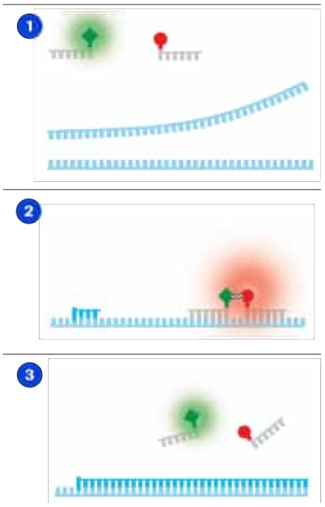
Order products directly:
DNA@tib-molbiol.de

Lightcycler®Probes

LightCycler® Probes are hybridization probes that can be used for both genotyping and quantification on the LightCycler® system.

LightCycler® Probes are designed with a donor and an acceptor, each labeled with a different fluorescent dye. During the annealing phase of a PCR, two single-labeled and sequence-specific oligonucleotides adjacent to each other on the target sequence hybridize, resulting in the emission of a signal.

LightCycler® Probes are widely used in various applications, including genotyping studies, gene expression analysis, and viral load quantification. They offer high sensitivity, specificity, and flexibility in assay design.



Acceptor 5‘	Ab/Em[nm]
Red 610	590/610
Red 640	630/640
Red 670	649/670
Red 705	685/705

Donor 3‘	Ab/Em[nm]
Fluorescein [FLU]	495/520

Alternatively the standard configuration of 3’-fluorescein and 5’-LightCycler® Red labels can be inverted to 3’-LightCycler® Red Labeled Probes.

LightCycler® Probes are available in final quantities of 1 nmol, 3 nmol, 6 nmol, 15 nmol, 30 nmol and 100 nmol (300 pmol for evaluation of new design).

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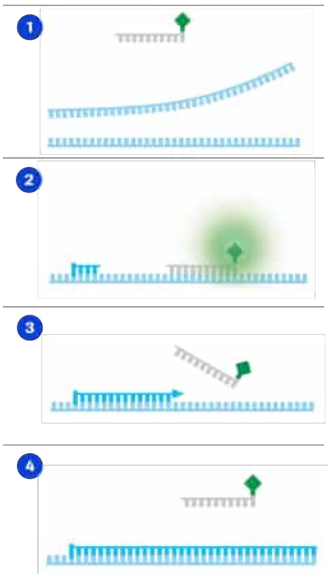
SimpleProbes®

SimpleProbes® are designed with a self-quenching mechanism, where the fluorescence of the probe is suppressed when it is in its intact form. However, when the probe binds to its complementary target sequence, the self-quenching is relieved, resulting in a brighter fluorescent signal.

SimpleProbes® are effective for genotyping applications, where the goal is to identify specific genetic variations or single nucleotide polymorphisms (SNPs), but they are not typically used for quantification purposes due to the low signal generated in a PCR.

The LightCycler® platform is well-suited for conducting melting curve analysis (SNP) using SimpleProbes®.



SimpleProbes® are available in final quantities of 1 nmol, 3 nmol, 6 nmol, 30 nmol and 100 nmol.

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