Check the product label for actual catalog number, lot and expiry date.

SampleIN™ Direct qPCR Probe Mix, 4X

CAT.#	SIZE	COMPONENTS	COMPONENT COMPOSITION
DQP0101	200 r of 20 µl	1 ml - SampleIN™ Direct qPCR Probe Mix, 4X 3 x 1 ml - PCR Water	4X concentrated robust qPCR master mix with Hot Start Taq DNA Polymerase, dNTPs, magnesium and optimized buffer with enhancers and stabilizers.
DQP0105	1000 r of 20 µl	5 x 1 ml - SampleIN™ Direct qPCR Probe Mix, 4X 15 x 1 ml - PCR Water	
Storage	*In the dark at -20°C.*		

APPLICATIONS

- qPCR using crude lysed or even unpurified samples
- qPCR assays based on specific probes: including TaqMan®, Molecular Beacons, Scorpions™ Probes
- Quantification of gDNA, cDNA, viral DNA, low copy number genes, gene expression analysis

BENEFITS

- Exceptional PCR-inhibitor tolerance in direct qPCR applications
- The unique composition reduces effects of common PCR inhibitors found in clinical, environmental samples, food matrices, animal, and plant materials
- Highly concentrated master mix for the use with maximum template volume, and multiple primers and probes
- Great for multiplexing, excellent performance on GC-rich templates

PRODUCT DETAILS

The SampleIN™ Direct qPCR Probe Mix has been specifically designed for use with unpurified samples or crude lysates as templates. This 4X concentrated qPCR master mix with the Hot Start Taq DNA Polymerase, dNTPs, magnesium, and optimized buffer delivers an exceptional PCR inhibitor tolerance in direct qPCR applications. It includes PCR enhancers and stabilizers and is formulated to provide the robust performance with such common sample materials like unpurified saliva or fresh blood. The mix tolerates a range of common chemicals present in purified DNA templates such as guanidine, alcohols, SDS and similar, as well as common blood, urine and environmental natural sample-compounds known to inhibit PCR such as hemoglobin, immunoglobulins, heparin, urea, polyphenols, cellulose, humic and tannic acids and chlorophyl.

The mix can be used with all probe types and with a variety of sample amounts from a very low-copy number targets in diluted samples to abundant templates. This Direct qPCR Probe Mix contains all compounds required for robust qPCR reaction, and the only components to add are template, primers and probes. The high concentration of the master mix enables the use of maximal template volume as well as multiple probes and primers. Mix is supplied with PCR Water.

Though the SampleIN™ Direct qPCR Probe Mix has been successfully tested for the use with fresh blood and urine samples; for more consistent results, it is always recommended to purify the template, or at least to perform fast lysis using highQu SampleIN™ Lysis Set for PCR/qPCR.

For work with crude or inhibitor-rich RNA templates, we offer a SampleIN™ 1Step RT qPCR Probe Mixes, 4X with reverse transcriptase.

The SampleIN™ Direct qPCR Probe Mix does not include ROX, the version with Low ROX concentration is available as SampleIN™ Direct qPCR Probe ROX L Mix. If high ROX concentration or more ROX flexibility is required, ROX for qPCR Mixes, 50 µM can be obtained separately and added directly into the qPCR mix.

TOLERATES COMMON INHIBITORS, SUCH AS:

- 5-7% crude saliva and crude blood in the reaction
- Chemicals left after NA extractions (guanidine, alcohols, SDS)
- Blood compounds (hematin, hemoglobin, hemin, immunoglobulins)
- Saliva and urine compounds (urea)
- Plant, soil samples (chlorophyl, humic, tannic acids, quercetin cellulose)

PROTOCOL

- Use special primer selection programs for good planning.
- Work with amplicons in a range of 80-200, max 400 bp.
- Take typical measures to prevent PCR cross - contamination, keep your bench clean, wear gloves, use sterile tubes and filter pipet tips.
- Though the mix is tested for the use with fresh saliva, blood and urine samples, for consistent results, it is recommended to purify DNA, or to perform lysis using the SampleIN™ Lysis Set for PCR/qPCR or other lysis method.
- Initial template dilution series to determine the best template amount is recommended for each new system. 1:10 and 1:100 dilution series is especially important when working with crude lysed samples or pure samples such as fresh blood or urine or saliva.
- Note, that some crude sample components might cleave the probes, for such cases, DNA purification is necessary.
- Run reactions in triplets; include a no-template control and positive control with purified control DNA.
- Thaw and keep reagents on ice. Mix very well before use.
- Perform annealing temperature gradient for each new template-primer system. To evaluate best annealing/extension temperature.
- Do not perform annealing/extension for more than 30 seconds and do not use lower than 60 °C temperature for this step.
- To inactivate and eliminate inhibitory effects, initial denaturation of 5 minutes at 98°C is recommended for certain inhibitor and contaminant-rich samples.
- Starting with new primers/probes, the optimal concentration of these shall be determined in a range of 500-1000 nM for primer and 200-500 nm for probes.

✓ Prepare a 20 µl reaction:

	500-1000 nM final concentration
	500-1000 nM final concentration
	200-500 nM final concentration
or	or
gDNA Template	1 µg adjusted in 2-5 µl sample volume

Saliva can be used without lysis, dilution in transport medium w/o guanidine is recommended. Use 2-5 µl of 1:10 diluted saliva in 20 µl reaction.

- *Blood samples can be used without lysis, 1:10 dilution in NaCl/EDTA is recommended. Use 1-2 µl of 1:10 diluted blood in 20 µl reaction.*
- *Reactions work with up to 5-7% volume of crude saliva or blood.*
- *For crude samples and cDNA reactions mixtures – do not use more than 2 µl of crude sample in 20 µl PCR reaction. For 1:10 or 1:100 diluted samples this volume can be maximized up to 5 µl.*

	µl
™ Direct qPCR Probe Mix, 4X	µl

✓ Mix gently, avoid bubbles.

✓ Place into the instrument set like:

	°C - 3 min (up to 98°C - 5 min)
	-50 cycles: 95°C – 5-15 sec
	-50 cycles: 60-65°C – 5-20 sec

Follow instrument instructions for melting curve analysis.

- *Note, that the same crude sample may show different Cq in replicates. 1-2 cycle delays are normal with crude samples.*

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