

ROTI®-POL DNA-POLYMERASES



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For PCR. Recombinant, heat stable DNA polymerases from the thermophilic bacteria *Thermus aquaticus* or *Pyrococcus furiosus*.

Roti®-Pol, the new series of DNA polymerases is the optimal choice for all PCR cycling protocols, as being performed in, for instance, analysis of cloning efficiency, for gene fishing, in routine screening processes, educational assays and much more. In combination with our specially designed buffers, the Roti®-Pol DNA polymerases deliver specific and reproducible PCR amplification with a wide range of PCR templates.

In addition to the **standard** Taq polymerase for PCR assays in general, the range also includes the antibody blocked **hot-start** version of the enzyme, which is recommended for particularly sequence specific approaches. This inhibited Taq polymerase is getting active only after the initial denaturation step, resulting in amplification of the target sequence without production of unwanted side products. Both Taq polymerases are available as **set of enzyme and buffer solutions** as well as premixed, 2x concentrated **master mixes**. The sets contain the DNA polymerase plus two 10x concentrated reaction buffers with MgCl₂, one of which has been specially designed for direct gel loading following the PCR reaction. Besides the DNA polymerase, the master mixes include dNTPs, MgCl₂, and all other components required for PCR except primers and template DNA, and are available in a colourless version for PCR only, plus a red ready-to-load version for subsequent direct gel electrophoresis.

With the **TaqHY** DNA polymerase we provide a modified Taq polymerase outstanding in robust performance, fast polymerisation rate and high yield of amplicons. Combining the benefits of both techniques, the **Hot-TaqHY** DNA polymerase has been designed by increasing the PCR sequence specificity of a quick and high yield modified Taq polymerase by antibody mediated inhibition.

In combination with the attached specially adjusted high fidelity buffer, the **ProofRead** polymerase delivers highly sequence-true PCR amplicons and is recommended for amplification of target sequences of high GC content, or with complex secondary structures.

All **TaqUltra** DNA polymerase are being tested on absence of DNA (bacterial genomic DNA) which makes them particularly suitable for amplification of bacterial DNA. This polymerase is also available in standard version as well as the hot-start type **Hot-TaqUltra**.

Product	Polymerase	Master mix (2x)	Reaction buffer	Art.-No.
Roti®-Pol TaqS	Standard Taq polymerase	-	colourless + red (ready to load)	9223
Roti®-Pol TaqS Mix (2x)	Standard Taq polymerase	colourless	-	9239
Roti®-Pol TaqS Red-Mix (2x)	Standard Taq polymerase	red (ready to load)	-	9241
Roti®-Pol Hot-TaqS	Hot start Taq polymerase	-	colourless + red (ready to load)	9245
Roti®-Pol Hot-TaqS Mix (2x)	Hot start Taq polymerase	colourless	-	9248
Roti®-Pol Hot-TaqS Red-Mix (2x)	Hot start Taq polymerase	red (ready to load)	-	9256
Roti®-Pol TaqHY	High yield / high performance Taq polymerase	-	colourless + red (ready to load)	9345
Roti®-Pol Hot-TaqHY	High yield / high performance hot-start Taq polymerase	-	colourless + red (ready to load)	9346
Roti®-Pol ProofRead	Proof reading / high fidelity Pfu polymerase	-	ProofRead	9344
Roti®-Pol TaqUltra	DNA free, ultra pure Taq polymerase	-	-	9347
Roti®-Pol Hot-TaqUltra	DNA free, ultra pure hot start Taq polymerase	-	-	9350

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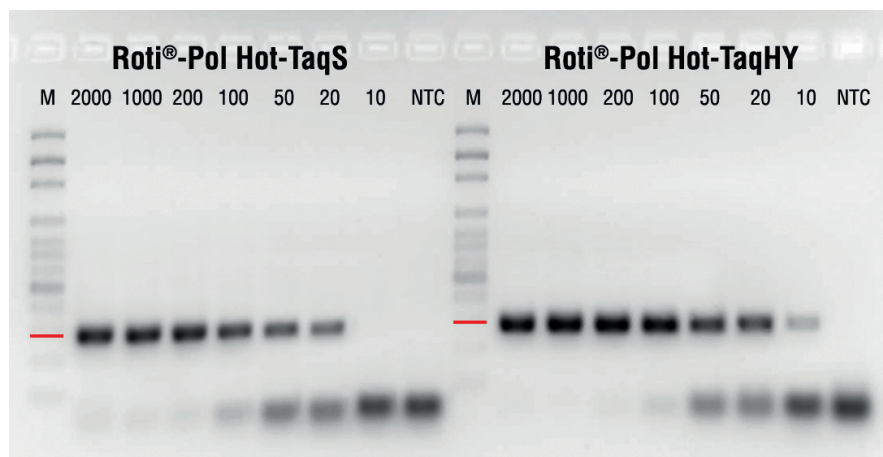


Figure:

Sensitivity assay using Roti®-Pol Hot-TaqS and Hot-TaqHY, 1 U/reaction each (20 µl). 300 bp β-Actin fragment, 40 cycles. Template: 10 to 2000 pg human gDNA. Gel loading 10 µl each. M: 100 bp-DNA Ladder extended. NTC: no template control.

Roti®-Pol DNA polymerases are able to amplify PCR products up to 5 kb with genomic, viral, cDNA and plasmid DNA as template. The Taq DNA polymerases possess a 5' → 3' polymerase- as well as a 5'-flap endonuclease activity, generating amplicons with a 3'dA (adenine)-overhang which may well be used for TA-cloning purposes. In addition to the 5' → 3' polymerase activity, the Pfu DNA polymerase possesses a 3' → 5' (proof reading) exonuclease activity, rapidly substituting misincorporated bases during polymerization. These DNA fragments are blunt-ended.

For easy handling, all solutions are filled in tubes with **colour coded lids**. The red dye for direct gel loading, included in buffers and master mixes, migrates approx. as fast as a 1 kb DNA fragment in 1 % agarose gels.

Product	Purity	Application	Amplicon Ends	Art. No.	Art. No.
Roti®-Pol TaqS	5 U/µl	Standard PCR	3'dA	9223.1	500 U
				9223.2	2500 U
Roti®-Pol TaqS Mix (2x)	ready-to-use, 2x conc.	Standard PCR	3'dA	9239.1	2,5 ml
				9239.2	12,5 ml
Roti®-Pol TaqS Red-Mix (2x)	ready-to-use, 2x conc.	Standard PCR with subsequent gel loading	3'dA	9241.1	2,5 ml
				9241.2	12,5 ml
Roti®-Pol Hot-TaqS	5 U/µl	Particularly sequence specific standard PCR	3'dA	9245.1	200 U
				9245.2	1000 U
Roti®-Pol Hot-TaqS Mix (2x)	ready-to-use, 2x conc.	Particularly sequence specific standard PCR	3'dA	9248.1	2,5 ml
				9248.2	12,5 ml
Roti®-Pol Hot-TaqS Red-Mix (2x)	ready-to-use, 2x conc.	Particularly sequence specific standard PCR with subsequent gel loading	3'dA	9256.1	2,5 ml
				9256.2	12,5 ml
Roti®-Pol TaqHY	5 U/µl	Fast PCR protocols and/or high yield, GC rich template DNA	3'dA	9345.1	500 U
				9345.2	2500 U
Roti®-Pol Hot-TaqHY	5 U/µl	Particularly sequence specific, fast PCR protocols and/or high yield, GC rich template DNA	3'dA	9346.1	200 U
				9346.2	1000 U
Roti®-Pol ProofRead	5 U/µl	High fidelity PCR with exact sequence replication	blunt	9344.1	200 U
				9344.2	1000 U
Roti®-Pol TaqUltra	5 U/µl, DNA-free	PCR of bacterial gDNA	3'dA	9347.1	200 U
				9347.2	1000 U
Roti®-Pol Hot-TaqUltra	5 U/µl, DNA-free	Particularly sequence specific PCR of bacterial gDNA	3'dA	9350.1	200 U
				9350.2	1000 U

For research use only. Not approved for use in clinical or *in vitro* diagnostics.
Store at -20 °C • Transport temp.: cooled



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