



DNA-Free PCR Reagents

40 PCR Cycles

Mastermix 16S/18S

**Ultra-sensitive Assaying of
Bacterial and Fungal DNA**

DNA-Free PCR Reagents

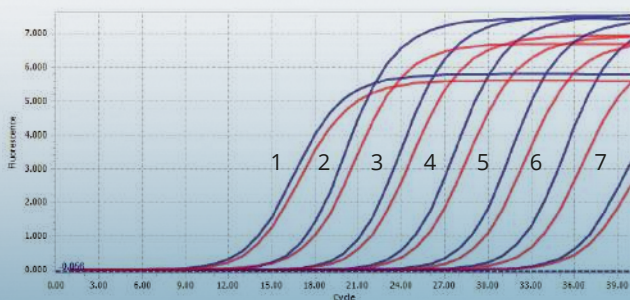
40 PCR Cycles

Mastermix 16S/18S: Avoidance of False-Positive Results

A common drawback of PCR assays for bacterial and fungal sequences is the contamination of amplification reagents by microbial DNA. As a consequence, falsepositive results may arise often also associated with a loss of analytical sensitivity. Molzym's Mastermix 16S/18S products are guaranteed free of contaminating bacterial and fungal DNA. This provides accurate results also at low target loads.

Ultra-Sensitive Detection of Bacterial and Fungal Sequences

Mastermix 16S/18S products assure strong amplification activity and accuracy, and thereby guarantee high sensitivity of bacterial and fungal DNA detection. Mastermix 16S/18S products can be used with commercial PCR and Real-Time PCR systems including thermocyclers from e.g. ABI, Bio-Rad, Eppendorf, Qiagen, Roche and Stratagene.



A series of high quality products are available for the ultrasensitive detection of bacterial and fungal DNA down to the femtogram range using PCR or Real-Time PCR. Products include assays for part of the 16S and 18S rRNA gene, respectively, as well as master mixes for the use with custom primers. Molzym's proprietary manufacturing technology and QM management supply ultra-pure reagents. Thereby, false-positive results by reagent contamination are excluded and high sensitivity of the assay is guaranteed.

SYBR® Green 1 Real-Time PCR of purified Bacillus subtilis DNA (red) with Mastermix 16S Complete and of Saccharomyces cerevisiae DNA (blue) with Mastermix 18S Complete. Sensitivity of detection for B. subtilis/S. cerevisiae at quantities of 100/10 ng (1), 10/1 ng (2), 1/0.1 ng (3), 100/10 pg (4), 10/1 pg (5), 1/0.1 pg (6), and 100/10 fg (7).

Product Features

- ✓ Highly active Taq polymerases
- ✓ Microbial DNA-free
- ✓ High amplification activity for 40 cycles
- ✓ Ultra-sensitive detection of bacterial DNA
- ✓ Ultra-sensitive detection of fungal DNA
- ✓ Suitable for PCR and Real-Time PCR



DNA-Free and Highly Active PCR / Real-Time PCR Reagents

DNA-free Taq polymerases

DNA-free MolTaq 16S/18S is a highly active Taq DNA polymerase for ultra-sensitive PCR/Real-Time PCR analysis of femtogram amounts of bacterial and fungal DNA. The newly developed DNA-free Hot MolTaq 16S/18S reduces unspecific amplification and allows the convenient PCR setup at ambient temperature.

DNA-free master mix products

Molzym's master mix products constitute of optimised reagent formulations and MolTaq 16S/18S. High amplification activity is pertained for at least 40 cycles.

Application	Custom primers		Eubacterial assay	Panfungal assay
Product	Mastermix 16S/18S		Mastermix 16S	Mastermix 18S
	Basic	Dye	Complete	Complete
Taq polymerase, buffer, water	+	+	+	+
dNTPs	+	+	+	+
Fluorescing dye	-	+	+	+
Universal 16S primers	-	-	+	-
Universal 18S primers	-	-	-	+

Master mix products for custom assays

Two master mix products are available for PCR or Real-Time PCR assays including your custom primer sets. Mastermix 16S/18S Basic is ready for use with your specified primers with or without probes. SYBR Green Real-Time PCR and melt curve assaying is possible employing Mastermix 16S/18S Dye by adding custom primers.

Eubacterial assay

Mastermix 16S Complete is the perfect assay for the sensitive detection of bacterial DNA. It is suitable for PCR and Real-Time PCR testings and includes universal primers that bind to conserved sites flanking the V3/V4 variable region of the 16S rRNA gene.

Panfungal assay

Mastermix 18S Complete amplifies the V8/V9 variable region of the fungal 18S rRNA gene. The PCR and Real-Time PCR assay, respectively, allows the extremely sensitive detection of fungal DNA in a sample.

Enhanced amplification activity of Molzym Mastermix 16S Complete using *Klebsiella pneumoniae* DNA at amounts indicated per 25µl assay

Source	1ng	45pg	8.9pg	1.7pg
Supplier A	+	-	-	-
Supplier B	+	+	-	-
Supplier C	+	+	-	-
Molzym	+	+	+	+

+ : signal in the melt curve analysis (SYBR Green) at the temperature specific for *K. pneumoniae* 16S amplicon

- : specific signal lacking

Order Information

Product	Content	Order Number
DNA-free assay for the sensitive detection of bacterial DNA		
Mastermix 16S Complete Universal 16S rDNA Real-Time PCR assay	100 reactions	S-020-0100
	250 reactions	S-020-0250
	1000 reactions	S-020-1000
Set of eubacterial sequencing primers	100 reactions	S-775-0100
DNA-free assay for the sensitive detection of fungal DNA		
Mastermix 18S Complete Universal 18S rDNA Real-Time PCR assay	100 reactions	S-070-0100
	250 reactions	S-070-0250
	1000 reactions	S-070-1000
Sequencing primer panfungal	100 reactions	S-785-0100
DNA-free master mixes for use with custom primers		
Mastermix 16S/18S Dye Pre-mixed resgents and fluorescet dye for Real-Time PCR assays	100 reactions	S-030-0100
	250 reactions	S-030-0250
	1000 reactions	S-030-1000
Mastermix 16S/18S Basic Pre-mixed reagents for PCR assays	100 reactions	S-040-0100
	250 reactions	S-040-0250
	1000 reactions	S-040-1000
DNA-free polymerases		
MolTaq 16S/18S DNA-free Taq DNA polymerase	100 units	P-019-0100
	500 units	P-019-0500
Hot MolTaq 16S/18S Aptamer stabilized DNA-free Taq DNA polymerase	100 units	P-080-0100
	500 units	P-080-0500
DNA-free PCR-grade water		
DNA-Free Water	10 x 1.7 ml	P-020-0003



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