

“THE INTELLIGENT CHOICE FOR DISCOVERY”



ADVANCED PCR PRODUCTS

MBP •

SECTION

05

Index	Product	Page
1	RNase AWAY	76
2	DNA AWAY	76
3	HotStart	79
4	EasyStart	82



ADVANCED PCR

THE FAST, EFFECTIVE WAY TO REMOVE RNASE AND DNA CONTAMINATION

Sure, the old methods of surface decontamination are effective, but are they really safe and practical? Extensive baking of glassware takes a lot of time and energy, while the carcinogenic properties of Diethylpyrocarbonate (DEPC) treatments require the donning of latex gloves and working under a fume hood. And, what about the countless items that cannot be autoclaved due to size or physical properties? MBP's decontaminants provide a safe, fast, and proven alternative to these arduous and time-consuming procedures. Our decontaminants can be used to remove nuclease and DNA contamination from bench tops, instruments, pipettors, glass, and plastic ware.



RNase AWAY®

RNase AWAY is easily wiped or rinsed away leaving your instruments and other surface areas residue free. For your convenience, RNase AWAY comes in four ready-to-use packaging configurations: 250ml, 1L and 4L bottles, as well as the ultra convenient 475ml spray bottle. You can spray, wipe, or soak your labware with RNase AWAY and remain confident your work is free of nuclease and nucleic acid contamination.



DNA AWAY®

DNA AWAY is the easiest and most effective method in the removal of nucleic acid contamination from PCR workstations, countertops and labware. DNA AWAY requires no prep time and is ready to use straight from the 250ml bottle.

	250ml bottle	475ml spray bottle	1L bottle	4L bottle
RNase AWAY	7000	7002	7003	7005
DNA AWAY	7010	-	-	-

For FREE samples, MSDS sheets, or Technical Report #205 on RNase AWAY®, please point your browser to www.mbpinc.com

HOTSTART PCR HAS NEVER BEEN THIS FAST AND EASY

HotStart tubes are a combination of thin-walled tube and wax bead. The wax bead is pre-positioned in the tube to optimize the hot start reaction. HotStart's unique design eliminates the need for messy oil overlays and gives the researcher an advantage because the handling of the reaction tube is minimized, increasing the integrity of reaction conditions.

- Perform HotStart PCR with speed and simplicity
- Store pre-aliquoted master mixes for PCR and sequencing
- Eliminate mineral oil
- Complete RT-PCR in one tube

INCREASE YOUR YIELD AND SPECIFICITY

The HotStart PCR process involves withholding one or more key reagents until after the annealing temperature is reached. By assembling the final reaction at an elevated temperature, the occurrence of misprimers, primer-dimers, and premature annealing is decreased, thereby increasing sensitivity, specificity, and yield. HotStart storage and reaction tubes automate this process by using a pre-positioned wax barrier to separate key reagents until the annealing temperature is reached, thereby optimizing your reaction conditions.

THE HOTSTART PROCESS



STEP 1

- Add lower layer



STEP 2

- Maintain thermocycler at 90° C for 30 seconds to thoroughly melt wax. Allow wax to cool



STEP 3

- After wax cools add upper layer



STEP 4

- Complete all PCR cycles

STORE COMMONLY USED PRIMER SETS

HotStart storage and reaction tubes allow for the storage of commonly used primer sets and PCR product for later use or analysis. Simply create a master mix, aliquot into the HotStart tubes, melt the wax bead, and freeze! Master mixes and PCR product can be stored for months in this condition. This is a great way to save time and ensure test-to-test consistency when regularly running several of the same reaction types using identical primer sets.

THE MOST ADVANCED SOLUTION FOR DIFFICULT PCR

Use HotStart storage and reaction tubes when working with low-copy-number samples, multiplex PCR, or hard-to-amplify DNA. The pre-adhered wax bead assures synchronous reaction start-up, consistent results, and eliminates the need for tedious mineral oil overlays. Pre-sterilized and RNase and DNase free, HotStart reaction tubes feature a thin-walled design assuring optimal heat transfer. HotStart PCR has never been this easy!

PERFORM RT-PCR IN ONE TUBE

HotStart's unique design facilitates a simple, one-tube RT-PCR procedure by using a thermostable reverse transcription enzyme. Simply add your reverse transcription reagents to the lower layer and the PCR reagents to the upper layer. The first denaturation cycle of PCR will melt the wax, denature any side reagents from the RT reaction and begin the amplification of the target cDNA. HotStart is the perfect, hassle-free alternative to standard RT-PCR protocols.



**IF YOU ARE DOING PCR,
TRY THE ART 10 REACH OR
THE ART 1000 REACH.**

MBP's extended length pipet tips add a layer of security in protecting samples and pipettors by preventing the pipettor's shaft from touching

the inside of the sample vessel, thus eliminating the chance of carryover contamination and the need to clean or replace pipettors. Assays remain pure, saving time and effort for each user. The 10 REACH is perfect for all microcentrifuge tubes while the 1000 REACH is perfect for researchers and lab technicians who regularly sample from deep vessels such as 15 and 50 ml centrifuge tubes, 12 x 75mm culture tubes, and chromatography columns.

HOTSTART STORAGE REACTION TUBES



HotStart PCR HAS NEVER BEEN THIS FAST AND EASY

- Pre-positioned wax bead and a thin-walled tube all in one!
- Perform HotStart PCR with speed and simplicity
- Store pre-aliquoted master mixes for PCR and sequencing
- Eliminate mineral oil
- Complete RT PCR in one tube

HOTSTART STORAGE REACTION TUBES

Catalog Number	Product	Description	Unit Packaging
0.2ml HotStart Storage & Reaction Tubes			
6008	HotStart Micro 20 15-25 μ l reaction volume	.2ml reaction tube w/wax bead	96 tubes/reactions per pack
6308	HotStart Micro 20 15-25 μ l reaction volume	.2ml reaction tube w/wax bead	Bulk, 480 tubes/reactions per pack
▶ 6208	HotStart Micro 20 Strips 15-25 μ l reaction volume	.2ml 8-tube strips w/wax bead	96 tubes/reactions per pack strip dome caps included
▶ 6210	HotStart Micro 50 Strips 25-50 μ l reaction volume	.2ml 8-tube strips w/wax bead	96 tubes/reactions per pack strip dome caps included
6010	HotStart Micro 50 25-50 μ l reaction volume	.2ml reaction tube w/wax bead	96 tubes/reactions per pack
6310	HotStart Micro 50 25-50 μ l reaction volume	.2ml reaction tube w/wax bead	Bulk, 480 tubes/reactions per pack
6014	HotStart Micro 100 60-100 μ l reaction volume	.2ml reaction tube w/wax bead	96 tubes/reactions per pack
0.5ml HotStart Storage & Reaction Tubes			
6002	HotStart 50 25-50 μ l reaction volume	.5ml reaction tube w/wax bead	96 tubes/reactions per pack
6302	HotStart 50 25-50 μ l reaction volume	.5ml reaction tube w/wax bead	Bulk, 480 tubes/reactions per pack
6005	HotStart 100 60-100 μ l reaction volume	.5ml reaction tube w/wax bead	96 tubes/reactions per pack
6305	HotStart 100 60-100 μ l reaction volume	.5ml reaction tube w/wax bead	Bulk, 480 tubes/reactions per pack
▶ NOW AVAILABLE IN STRIP TUBES			



ONE-STEP PCR WITH EASYSTART PCR MIX-IN-A-TUBE

- **Fast, easy setup**
- **Enhanced performance with any standard Taq**
- **Contamination-free PCR**
- **Room temperature storage**
- **More economical than the alternatives**
- **Flexible - EasyStart works with numerous DNA polymerases**

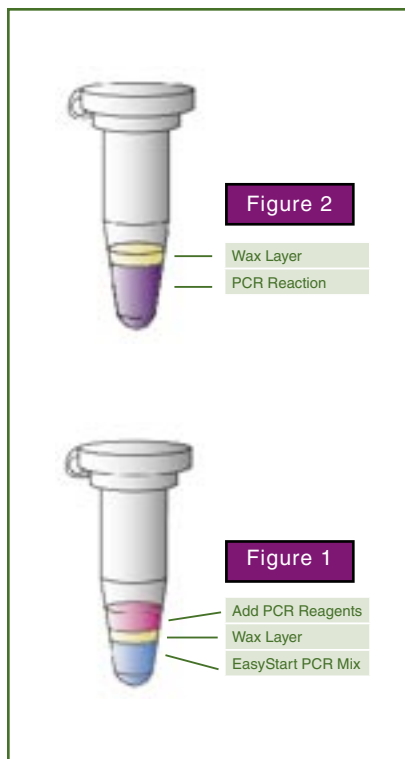
EASYSTART PCR MIX-IN-A-TUBE

EasyStart PCR mix-in-a-tube eliminates time-consuming setup protocols, while improving specificity and yield. We achieve this by pre-aliquoting the nonspecific reagents $MgCl_2$, 10xPCR buffer, dNTP mix, and dH_2O , then hermetically sealing them in a reaction tube. The 10x buffer is comprised of 200mM Tris-HCl (pH 8.4)/500mM KCl. A wax layer protects the reagents from oxidation, separating them from the reaction specific ingredients until the ideal reaction temperature is reached. EasyStart can also be stored at room temperature without negative effects.

EasyStart provides all the benefits of hot-start PCR without the time-consuming setup protocol. The tedium of aliquoting, the opportunity for contamination, the lack of consistency: all of the negative aspects of PCR are banished forever by MBP's EasyStart products. With this technology, it is only necessary to add your preferred Taq DNA polymerase, template DNA, and primers to begin the reaction.

All of the standard elements of PCR: dH_2O , dNTPs, 10X buffer, and $MgCl_2$, are pre-assembled and hermetically sealed under a layer of wax in a thin-wall PCR tube.





EASY TO USE

EasyStart eliminates the tedious first steps of PCR. All that is required is the addition of the reaction-specific reagents including template DNA, primers, enzyme, and dH₂O on top of the wax layer (figure 1). Now, begin the reaction by placing the EasyStart tube into a thermocycler making the first denaturation cycle between one and five minutes. The wax layer melts, mixing the ingredients at the ideal temperature, which significantly reduces the risk of misprimers, primer-dimers and premature annealing (figure 2), because the wax barrier separates the MgCl₂ from the enzyme until the wax barrier melts at the optimum reaction temperature. Additionally, high-quality control standards ensure that the lower layer mixture is precisely and consistently formulated in every tube to provide reproducible results every time.

DIFFERENT FROM OTHER MASTER MIXES

Unlike other brands of master mixes, EasyStart works with several DNA polymerases which allows labs to continue using their preferred enzyme. EasyStart has been tested with enzymes from Boehringer-Mannheim, Perkin-Elmer, Invitrogen, and Promega. In each case, the enzymes provided exceptional results.

STABLE STORAGE

EasyStart products can be safely stored at ambient temperatures for extended periods of time because the premixed portion is safely sealed beneath a wax barrier making it impossible for the reagents to oxidize or evaporate.

IDEAL FOR ANY APPLICATION

EasyStart tubes are thin-walled for optimal heat transfer and can be used in any 0.2ml or 0.5ml thermocycler including Perkin-Elmer, MJ Research, Eppendorf, ThermoHybaid, BioRad, Biometra and Techne. Both high- and low- volume labs will benefit from EasyStart's timesaving protocol and economical design. But, more significantly, increased specificity and yield will benefit any lab that depends on consistent results from hard-to-amplify DNA. Visit our Web-Site for free samples today!

EASYSTART PCR MIX-IN-A-TUBE



- **One-step protocol**

Simply add reaction-specific reagents above EasyStart's wax layer to begin PCR.

- **Consistency**

Every EasyStart tube has a precisely formulated lower-layer-reagent-mix to ensure batch consistency and reproducibility.

- **Versatility**

EasyStart is available in 0.2 and 0.5ml tubes and strips, and available for 20, 50 and 100µl reactions.



EASYSTART

Catalog Number	Product	Description	Unit Packaging
6028	EasyStart Micro 20 20µl reaction volume	.2ml ready-to-use PCR mix	96 tubes/reactions per pack
▶ 6228	EasyStart Micro 20 Strips 20µl reaction volume	.2ml 8 tube strips ready-to-use PCR mix	96 tubes/reactions per pack strip dome caps included
6020	EasyStart Micro 50 50µl reaction volume	.2ml ready-to-use PCR mix	96 tubes/reactions per pack
6024	EasyStart Micro 100 100µl reaction volume	.2ml ready-to-use PCR mix	96 tubes/reactions per pack
6022	EasyStart 50 50µl reaction volume	.5ml ready-to-use PCR mix	96 tubes/reactions per pack
6025	EasyStart 100 100µl reaction volume	.5ml ready-to-use PCR mix	96 tubes/reactions per pack

▶ NOW AVAILABLE IN STRIP TUBES

PULL THE PIPET STRAIGHT OUT

Pull the pipet straight out of the container after aspirating a sample. Do not touch the tip to the sides of the container.

This technique is especially important when pipetting small volumes (<5µl). Surface tension effects cause the sample volumes to vary if the exit angle varies. Touching the tip against the sides results in loss of sample.

