

MasterAmp™ 10X PCR Enhancer

Cat. Nos. ME81201, ME81205, and ME81210

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1. Introduction

The MasterAmp™ 10X PCR Enhancer (with betaine)⁺ substantially improves the specificity and yield of PCR amplification reactions, especially templates containing a high GC content or secondary structure.¹ MasterAmp PCR Enhancer (with betaine) lowers the melting temperature of GC-rich regions to a temperature more similar to AT regions. This results in destabilization of double-stranded regions, limiting DNA polymerase pausing, thereby increasing amplification yields. The MasterAmp PCR Enhancer (with betaine) can be used with a wide variety of DNA polymerases. MasterAmp 10X PCR Enhancer (with betaine) is available in 1.5-ml, 5-ml, and 10-ml sizes.

2. Product Specifications

Storage: Store only at –20°C in a freezer without a defrost cycle.

Quality Control: MasterAmp 10X PCR Enhancer is function-tested in a PCR containing: 200 µM dNTPs, 300 ng human genomic DNA, 12.5 pmol of each *ApoE* primer, and 1.25 U AmpliTherm™ DNA polymerase in 10 mM Tris-HCl (pH 8.3), 50 mM CaCl₂, and 1.5 mM MgCl₂ to produce a 268-bp amplification product.

Contaminating Activity Assays: MasterAmp 10X PCR Enhancer is free of detectable DNA exonuclease, endonuclease, and ribonuclease activities.

3. Related Products

The following products are also available:

- MasterAmp™ AmpliTherm™ DNA Polymerase
- MasterAmp™ *Taq* DNA Polymerase
- MasterAmp™ *Tfl* DNA Polymerase
- MasterAmp™ *Tth* DNA Polymerase
- MasterAmp™ PCR Buffers
- dNTP Solutions

4. Reference

1. Weissensteiner, T. and Lanchbury, J.S. (1996) *BioTechniques* **21**, 1102.

⁺Use of betaine in DNA polymerase reactions, including, but not limited to use for PCR or DNA sequencing, is covered by U.S. Patent No. 6,270,962, European Patent No. 0742838, German Patent No. DE4411588C1, and other patents or patent applications in the U.S. and other countries that are either assigned or exclusively licensed to Epicentre. Purchase of a product from Epicentre that contains betaine and a thermostable DNA polymerase is accompanied by a limited non-exclusive license for the purchaser to use the purchased product solely for life science research, whether the purchaser performs research in a not-for-profit or a for-profit organization. However, if the product does not contain a thermostable DNA polymerase in addition to betaine, all for-profit organizations require a license from Epicentre in order to use betaine or a product that contains betaine in DNA polymerase reactions for research applications, and not-for-profit organizations require a license if the product, the research, or the result of the research is transferred to or obtained for or on behalf of a for-profit organization. Licenses are also available to use betaine in DNA polymerase reactions for human or animal diagnostics, screening, or other fields of use. Please contact Epicentre for information related to such licenses.

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