

Standard Buffer (15 mM MgCl₂)

MADE IN DENMARK



Cat. No.: A302103

A302103

| | |
|-----------|--|
| - | 10x Standard Buffer, 15 mM MgCl ₂ |
| ID No. | 5100510 |
| Cap color | Blue |
| Content | 3 x 1.5 ml |

Features and General Description

10x Standard Buffer are usually supplied in 10x formulations with 15 mM MgCl₂ included but are also available as Mg²⁺ free buffer, detergent free buffer as well as Mg²⁺ and detergent free buffer.

Standard Buffer

Standard Buffer is the traditional potassium (K⁺) buffer. Standard Buffer promotes high specificity and careful optimization of primer annealing temperatures and Mg²⁺ concentrations may be required.

Magnesium

Mg²⁺ is required for polymerase activity. Low Mg²⁺ concentrations increase the fidelity but with too low Mg²⁺ concentrations the polymerase will not work. The Mg²⁺ concentration available in the reaction is dependent on several parameters e.g. the presence of chelators or the dNTP concentration. Therefore, the Mg²⁺ concentration should be optimized.

Tween

Non-ionic detergents are used to prevent the polymerase to stick to the walls of the tube, to stabilize the polymerase and increase yield. However, these agents might increase non-specific amplification or interfere with downstream reactions. Tween can be used to neutralize SDS contaminations in the DNA template.

Recommended Storage and Stability

Long term storage at -20 °C. Product expiry at -20 °C is stated on the label.

Option: Store at +4 °C for up to 6 months.

Quality Control

Each lot of buffer is functionally tested in PCR.

Kit Components

10x Standard Buffer

Tris-HCl pH 8.5, KCl, 15 mM MgCl₂, 1% Tween[®] 20.

Determining the optimal buffer system for your application

Ampliqon offers several PCR buffers to allow the customer to choose the optimal buffer system for a specific amplification process.

For your specific application the optimal reaction condition can be determined by comparing PCR reactions containing the different Ampliqon buffers.

The final concentration of the buffer in the reaction should be 1x.

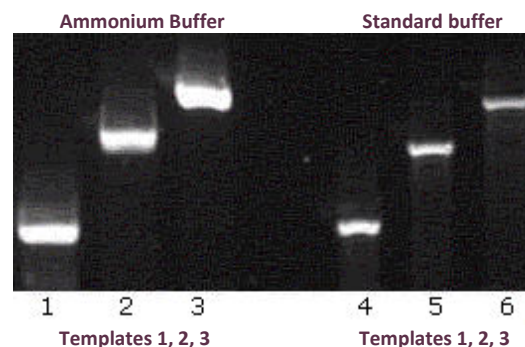


Figure 1: Amplification of three different cDNA templates using Ammonium Buffer versus Standard Buffer.

Related Products

| Taq DNA Polymerase (500 units) * | Cat. No. |
|--|----------|
| Taq DNA Polymerase 5 U/μl | A110003 |
| • with 10x Ammonium Buffer | A111103 |
| • 5x PCR Buffer RED | A111803 |
| Taq DNA Polymerase 5 U/μl, glycerol free | A100003 |
| • with 10x Ammonium Buffer | A101103 |

| Hot Start DNA Polymerase (500 units) * | Cat. No. |
|--|----------|
| TEMPase Hot Start DNA Polymerase, 5 U/μl | A220003 |
| • with 10x Ammonium Buffer | A221103 |

*Available in kits including one or two buffers (Ammonium Buffer, Standard Buffer or Combination Buffer). All kits include extra 25 mM MgCl₂.

| Buffers for DNA Polymerases * | Cat. No. |
|------------------------------------|----------|
| 10x Ammonium Buffer, 3 x 1.5 ml | A301103 |
| 10x Standard Buffer, 3 x 1.5 ml | A302103 |
| 10x Combination Buffer, 3 x 1.5 ml | A303103 |
| 5x PCR Buffer RED, 6 x 1,5 ml ** | A301810 |
| 4x GC Buffer I, 3 x 1.5 ml | A301703 |
| 4x GC Buffer II, 3 x 1.5 ml | A302703 |

*Ammonium Buffer, Standard Buffer and Combination Buffer are also available as Mg²⁺ free buffers, detergent free buffers and Mg²⁺ and detergent free buffers.

**For direct gel loading and visualisation.

| Ultrapure dNTPs* | Cat. No. |
|---|----------|
| dNTP Mix 40 mM (2 x 500 μl): 10 mM each dA, dC, dG, dT | A502004 |
| dNTP Set, 100 mM each: 250 μl of each dA, dC, dG and dT | A511104 |

*Other concentrations and Single dNTPs are available.

| Loading Buffers, PCR Water and Ladders | Cat. No. |
|---|----------|
| 5x Loading Buffer Red *, 5 x 1 ml | A608104 |
| lqon PCR Ladder **, 100 – 3000 bp, 1 x 0.5 ml | A610341 |
| PCR Grade Water, 6 x 5 ml | A360056 |

* Also available with Blue, Orange or Cyan. ** Available in different size ranges. Reagents for *in vitro* laboratory use only.

Other product sizes, combinations and customized solutions are available. Please look at www.ampliqon.com or ask for our complete product list for PCR Enzymes. For customized solutions please contact us.