

**COMBINATION BUFFER 10X**  
**1,5mM MgCl<sub>2</sub>, 3 TUBES OF 1,5ml**  
**Cat. No.: 257750**

MADE IN DENMARK

-	<b>Combination buffer 10x, 1,5mm Mgcl<sub>2</sub>, 3 Tubes Of 1,5ml</b>
<b>ID No.</b>	CL1.500-0048
<b>Cap color</b>	Green
<b>Content</b>	3 x 1.5 ml

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

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

For Research Use Only. Not for use in diagnostics procedures.

Other product sizes, combinations and customized solutions are available. Please look at [www.dutscher.com](http://www.dutscher.com) or ask for our complete product list for PCR Enzymes. For customized solutions please contact us.

**Made in Denmark**  
 Issued 08/2021

### Features and General Description

Combination buffer 10x are usually supplied in 10x formulations with 15 mM MgCl<sub>2</sub> included but are also available as Mg<sup>2+</sup> free tampon, detergent free tampon as well as Mg<sup>2+</sup> and detergent free tampon.

#### Combination buffer

Combination buffer is a proprietary mixture of K<sup>+</sup> and NH<sub>4</sub><sup>+</sup>. This Combination buffers high specificity with good product yield and high tolerance to optimization of primer annealing temperatures and Mg<sup>2+</sup> concentrations due to its balanced ammonium-potassium formulation.

#### Magnesium

Mg<sup>2+</sup> is required for polymerase activity. Low Mg<sup>2+</sup> concentrations increase the fidelity but with too low Mg<sup>2+</sup> concentrations the polymerase will not work. The Mg<sup>2+</sup> concentration available in the reaction is dependent on several parameters e.g. the presence of chelators or the dNTP concentration. Therefore, the Mg<sup>2+</sup> concentration should be optimized.

#### Tween, Triton

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 tampon is functionally tested in PCR.

### Kit Components

#### Combination buffer 10x

Tris-HCl pH 8.7, KCl, (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 15 mM MgCl<sub>2</sub>, 1% Tween® 20.

### Determining the optimal tampon system for your application

ClearLine offers several PCR tampons to allow the customer to choose the optimal tampon system for a specific amplification process.