Countable Labs.

4X Countable PCR Mix Kit (KT0004)

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

Description

The 4X Countable PCR Mix Kit (KT0004) is a hot-start, high-fidelity master mix optimized for single-molecule amplification in Countable PCR workflows. This concentrated mix supports both hydrolysis probe and Universal Multiplexing assays, delivering clean signal profiles and high reaction uniformity across a wide dynamic range.

The 4X Countable PCR Mix is a core component of the Countable Matrix chemistry and has been specifically engineered to support gel-based single-molecule amplification. When layered within the structured gel matrix, this mix ensures efficient amplification while preserving spatial distribution and minimizing background fluorescence. Because it is chemically integrated into the matrix-based reaction design, it cannot be substituted with standard PCR master mixes without compromising assay performance.

Kit Contents

Component	Catalog #	Quantity
4X Countable PCR Mix	PR0004	4 × 0.75 mL
50 mM $MgCl_2$ Solution	PR0005	1 × 1.0 mL

Supports up to 192 Countable PCR reactions per kit (50 µL each).

Storage and Stability

- Store all components at -25°C to -15°C
- Avoid repeated freeze-thaw cycles
- Shelf life: 1 year from date of manufacture

Handling Instructions

- Thaw components at room temperature and mix thoroughly by vortexing

Workflow Overview

See Countable PCR Setup Guide

Safety Information

This kit does not contain a reportable quantity for hazardous materials. Use in accordance with standard lab safety practices.

Additional Information

Magnesium Chloride ($MgCl_2$) Function

Magnesium chloride is a critical cofactor required for DNA polymerase activity. The separate 50 mM $MgCl_2$ solution provided in this kit allows for user-controlled optimization of reaction conditions depending on assay design, amplicon size, or template complexity.

Probe Additive Recommendation

For hydrolysis probe assays, Countable Labs strongly recommends the use of a Probe Additive (PA) to reduce background fluorescence and enhance signal-to-noise ratio. The Probe Additive is an oligonucleotide designed to improve quenching efficiency in single-molecule PCR reactions, where residual unquenched fluorophores can otherwise contribute to false signal detection.

Recommended primer and probe concentrations are provided in the Countable PCR Setup Guide

For protocol and technical support contact success@countablelabs.com.

For order assistance, contact order@countablelabs.com.

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