Taq 2X Master Mix

Catalog #	Size	Concentration	Price	Qty
M0270L	500 reactions (50 µl vol)	2X	$140.00	1

Categories: Master Mix Products, *Taq* DNA Polymerase Products

Applications: Multiplex PCR, Polymerases for DNA Manipulation, Routine PCR | More +

Product Information | FAQs & Tech Tips | Protocols & Manuals | Other Tools & Resources | Quality & Safety | Legal Information

- Description
- Properties and Usage
- Notes
- Advantages and Features
- Related Products

Description

Taq DNA Polymerase is a thermostable DNA polymerase that possesses a 5´→3´ polymerase activity (1,2,3) and a 5´ flap endonuclease activity (4,5).

Taq 2X Master Mix is an optimized ready-to-use solution containing *Taq* DNA Polymerase, dNTPs, $MgCl_2$, KCl and stabilizers. It is ideally suited to routine PCR applications from templates including pure DNA solutions, bacterial colonies, and cDNA products. It can amplify up to 4 kb from complex genomic DNA or up to 5 kb from lambda DNA.

Highlights
- Robust and reliable reactions
- Tolerates a wide range of templates
- Exceptional value in terms of cost per unit

Product Source
An *E. coli* strain that carries the *Taq* DNA Polymerase gene from *Thermus aquaticus* YT-1

Reagents Supplied
The following reagents are supplied with this product:

	Store at (°C)	Concentration
Magnesium Chloride ($MgCl_2$) Solution	-20	25 mM

Advantages and Features

Applications
- PCR

- Primer Extension
- Colony PCR

Properties and Usage

Storage Temperature
-20°C

1X Master Mix Composition
10 mM Tris-HCl
50 mM KCl
1.5 mM $MgCl_2$
0.2 mM dNTPs
5% Glycerol
0.08% IGEPAL® CA-630
0.05% Tween® 20
25 units/ml *Taq* DNA Polymerase
pH 8.6@25°C

Heat Inactivation
No

Unit Assay Conditions
1X ThermoPol® Reaction Buffer, 200 µM dNTPs including [^{3}H]-dTTP and 15 nM primed M13 DNA.

Related Products

Companion Products
- Deoxynucleotide (dNTP) Solution Mix
- Deoxynucleotide (dNTP) Solution Set
- Standard *Taq* (Mg-free) Reaction Buffer Pack
- Standard *Taq* Reaction Buffer Pack
- *Taq* DNA Polymerase with Standard *Taq* Buffer

Materials Sold Separately
- Magnesium Chloride ($MgCl_2$) Solution

Notes

1. *Taq* 2X Master Mix should be used at a 1X concentration with DNA template and primers in a total reaction volume of 25 or 50 µl.
2. *Taq* 2X Master Mix is stable for fifteen freeze-thaw cycles when stored at -20°C
3. *Taq* 2X Master Mix is also stable for three months at 4°C, so for frequent use, an aliquot may be kept at 4°C.

FAQs Tech Tips

FAQs

1. When should *Taq* DNA Polymerase be used in a primer extension reaction or for PCR?
2. Why is the product a smear when visualized on an agarose gel?
3. Why is there no product when visualized on an agarose gel?
4. The product sequence doesn't completely match the expected sequence. How can this result be improved?
5. Does the presence of Ca^{2+} inhibit PCR?
6. What are the stability and storage requirements of the One*Taq*® Master Mixes?

Tech Tips

Did you know most Taq reactions amplify more efficiently and robustly when you use a 68°C extension temperature?

Protocols Datacards

Protocols

1. Protocol for *Taq* 2X Master Mix (M0270)

Datacards

The Product Summary Sheet, or Data Card, includes details for how to use the product, as well as details of its formulation and quality controls. The following file naming structure is used to name the majority of these document files: [Catalog Number]Datasheet-Lot[Lot Number]. For those product lots not listed below, please contact NEB at info@neb.com or fill out the Technical Support Form for appropriate document.

M0270Datasheet-Lot0181206
M0270Datasheet-Lot0191212
M0270Datasheet-Lot0201306
M0270Datasheet-Lot0221406

Selection Charts
Troubleshooting Guides
Usage Guidelines & Tips
Interactive Tools

Selection Charts

- DNA Polymerase Selection Chart
- PCR Selection Chart
- Thermophilic DNA Polymerases

Usage Guidelines & Tips

- Activity of Restriction Enzymes in PCR Buffers
- Guidelines for PCR Optimization with *Taq* DNA Polymerase
- Guidelines for PCR Optimization with Thermophilic DNA Polymerases

Troubleshooting Guides

- *Taq* PCR Kit Troubleshooting Guide
- PCR Troubleshooting Guide

Interactive Tools

- NEBioCalculator
- PCR Selection Tool
- Tm Calculator

Quality Control
Datacards
Safety Data Sheet

Quality Control

Quality Control Assays

The following Quality Control Tests are performed on each new lot and meet the specifications designated for the product. Individual lot data can be found on the Product Summary Sheet/Datacard or Manual which can be found in the Supporting Documents section of this page. Further information regarding NEB product quality can be found here.

- **DNase Activity (Labeled Oligo, 3' extension):**
  The product is tested in a reaction containing a fluorescent labeled double stranded oligonucleotide containing a 3' extension. The percent degradation is determined by capillary electrophoresis.
- **Endonuclease Activity (Nicking):**
  The product is tested in a reaction containing a supercoiled DNA substrate. After incubation for 4 hours the percent converted to the nicked form is determined by agarose gel electrophoresis.
- **PCR Amplification (Master Mix):**
  The polymerase master mix is tested in a polymerase chain reaction (PCR) using a control template and specific primers,

resulting in the expected product.

Safety Data Sheet

The following is a list of Safety Data Sheet (SDS) that apply to this product to help you use it safely.

Taq 2X Master Mix

Magnesium Chloride ($MgCl_2$) Solution

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Legal and Disclaimers

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