

# Taq DNA Polymerase

Shipping: On Dry/Blue Ice	Catalog numbers
Exp. Date: See vial	BIO-21085: 1000u
Batch No.: See vial	BIO-21086: 2000u
	BIO-21087: 10000u



A Meridian Life Science® Company

Store at -20°C

## Storage and stability:

Taq DNA Polymerase is shipped on Dry/Blue Ice. It should be stored at -20°C upon receipt. When stored under optimum conditions, the reagents are stable for a minimum of 12 months from date of purchase.

## Reagent Specifications:

**10x KCl Reaction Buffer:** 500mM KCl, 100mM Tris-HCl pH 8.8 (at 25°C), 15mM MgCl<sub>2</sub>, and stabilizers.

**MgCl<sub>2</sub> Stock Solution:** 50mM MgCl<sub>2</sub>

**Storage Buffer:** 20mM Tris-HCl, pH 7.5, 100mM NaCl, 0.1mM EDTA, 2mM DTT, 50% Glycerol and stabilizers.

**Unit Definition:** One unit is defined as the amount of enzyme that incorporates 10nmoles of dNTPs into acid-insoluble form in 30 minutes at 72°C.

**Associated Activities:** Endonuclease and exonuclease activities were not detectable after 2 and 1 hour incubations, respectively, of 1µg Lambda DNA and 0.22µg of EcoR I-digested lambda DNA at 72°C in the presence of 15-20 units of Taq DNA polymerase.

## Notes:

For Research Use Only.

## Description

Taq DNA Polymerase is a thermostable DNA polymerase, which can withstand prolonged incubation at high temperatures without a significant decrease in enzyme activity. Taq is purified from *Thermus Aquaticus*<sup>1</sup> and is used in a wide range of molecular biology assays.

Like other polymerases Taq catalyzes the template-dependent polymerisation of nucleotides into duplex DNA, in a 5'→3' direction. Bioline Taq Polymerase possesses no 3'→5' exonuclease (proofreading) activity and low 5'→3' exonuclease activity. Taq polymerase reaction products contain 3' adenosine overhangs and are suitable for TA cloning. Bioline Taq DNA Polymerase can amplify fragments from genomic DNA of up to 6Kb.

Specificity and performance of Taq can be further improved with the use of 2x PolyMate Additive (not supplied, see associated products), which is designed for GC or AT rich DNA, "dirty" templates or sequences with difficult melting profiles.

## Components

Product Name	1000 Units	2000 Units	10000 Units
Taq DNA Polymerase	2 x 100µl	2 x 200µl	10 x 200µl
10x KCl Reaction Buffer	2 x 1.2ml	4 x 1.2ml	20 x 1.2ml
MgCl <sub>2</sub> Stock Solution	1.2ml	2 x 1.2ml	10 x 1.2ml

### Reaction Conditions (for a 50µl volume)

10x KCl Buffer (including Mg)	5µl
100mM dNTP Mix (see below)	0.5–1.0µl
Template and Primers	as required
Taq DNA Polymerase	0.5–1.0µl
Water (ddH <sub>2</sub> O)	up to 50µl

Note: 50mM MgCl<sub>2</sub> supplied can be used to adjust Magnesium concentration if required.

(Suggested final concentration of MgCl<sub>2</sub>: 1.5mM - 4mM)

Bioline 100mM dNTP Mix is available as a separate product (Cat. No. BIO-39028)

Denature: 94-96°C

Elongate: 70-72°C (allowing 15-30 seconds/ kb)

This data is intended for use as a guide only; conditions will vary from reaction to reaction and may need optimization.

## Associated products

Product Name	Pack size	Cat. No.
dNTP Set	4 x 25µmol	BIO-39025
dNTP Mix (100mM total)	1 x 500µl	BIO-39028
2x PolyMate Additive	2 x 1.2ml	BIO-37041
Agarose Tablets	150g	BIO-41028

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