Product Insert
HybriPol™ DNA Polymerase

Catalogue Numbers:
BIO-21080 1000 Units
BIO-21081 2500 Units

Features
- Fast amplification (up to 6Kb per minute)
- Amplifies fragments up to 8Kb
- Active at a wide range of Mg concentrations

Applications
- *Taq* substitute for routine applications
- Products generated are suitable for TA cloning

Description
HybriPol™ is a novel thermostable DNA Polymerase, which has been synthesized through the recombinant fusion of two polymerase domains. HybriPol is a *Taq* substitute, and is highly suited to routine PCR applications.

HybriPol possesses 5'-3' polymerase activity and can be substituted in protocols that currently use *Taq* polymerase, without the need to modify the protocol. As compared with Taq polymerase, Hybripol exhibits a DNA elongation rate, which is 1.5 times higher than *Taq* and an affinity for long templates (>2500 bp) at least 3 times higher than *Taq*, resulting in robust yield within a short reaction time. Hybripol can synthesize DNA fragments up to 8Kb (Lambda DNA as a template) with the same fidelity as *Taq* polymerase. HybriPol leaves an A' overhang such that the PCR product is suitable for effective integration into TA cloning vectors.

Reaction Conditions (for a 50µl volume)

10x Reaction Buffer	5µl
50mM $MgCl_2$ Solution	1.5 – 4.0µl
100mM dNTP Mix (see below)	0.5 - 1.0µl
Template and Primers	as required
Enzyme	0.5 – 1.0µl
Water (ddH_2O)	up to 50µl

Bioline 100mM dNTP Mix is available as a separate product (Catalogue number BIO-39028)

Denature: 94-96°C
Elongate: 70-72°C (allowing 10-30 seconds/Kb)

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

Specificity and performance of HybriPol 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 a high level of secondary structure.

Product Specifications

Batch details:
Batch No: See vial
Units per vial: See vial
Concentration: 5u/µl

Components

HybriPol DNA Polymerase	1000 Units	2500 Units
HybriPol DNA Polymerase	200µl	5 x 100µl
10x Reaction Buffer	4 x 1.2ml	10 x 1.2ml
50mM $MgCl_2$ Solution	1.2ml	5 x 1.2ml

Storage Conditions:
HybriPol can be stored for 12 months at -20°C.

Shipping Conditions:
On Dry ice or Blue ice.

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 *Eco*R I-digested lambda DNA at 72°C in the presence of 15-20 units of HybriPol™ DNA polymerase.

Associated Products:

Product Name	Pack Size	Cat No
dNTP Mix	500µl	BIO-39028
2x PolyMate Additive	2 x 1.2ml	BIO-37041
HyperLadder I	100 Lanes	BIO-33053
Agarose	100g	BIO-41026

Product Citations:
1. Lalevée, N., *et al*. *Current Biology,* **16(15),** 1502-1508, 2006.

Notes
1. HybriPol is a Trademark of Bioline.
2. This product insert is a declaration of analysis at the time of manufacture.
3. Research Use Only.

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