



Product Insert
ACCUZYME™ DNA Polymerase
 Research Use Only

Product:
 ACCUZYME™ DNA Polymerase

Description:
 ACCUZYME™ Polymerase is a thermostable DNA Polymerase possessing 5'-3' DNA polymerase and 3'-5' proof-reading activities which prevents misincorporations during Polymerase activity.

Catalogue No.:
 BIO-21051 250 u
 BIO-21052 500 u

Batch details:
 Batch No: See vial
 Units per vial: See vial
 Concentration: 2.5 u/µl

Additional reagents supplied:
10x AccuBuffer: 600mM Tris-Cl, 60mM (NH₄)₂SO₄, 100mM KCl, 20mM MgSO₄, pH 8.3 at 25°C.
MgCl₂ Stock Solution: 50mM MgCl₂

Reaction Conditions (for a 50µl volume)	
10x AccuBuffer	5 µl
50 mM MgCl ₂ Solution	0 - 2 µl
100mM dNTP Mix (see below)	0.5 - 1 µl
Template and primers	as required
Enzyme	1 - 3 µl
Water (ddH ₂ O)	up to 50µl
Bioline 100mM dNTP Mix is available as a separate product (see associated products)	
Denature: 94-97°C	
Extension: 72°C Allowing 1.5 - 2 mins per Kb	
Owing to ACCUZYME's inherent 3'-5' exonuclease activity, the enzyme must be added last to a reaction in order to prevent primer damage.	
This data is intended for use as a guide only; conditions will vary from reaction to reaction and may need optimisation.	

Features and Applications:

- **High Fidelity:** ACCUZYME™ offers up to 47-fold higher fidelity than *Taq* DNA Polymerase.
- **Blunt ends:** ACCUZYME™ produces blunt-ended products.

Specificity and Performance of the ACCUZYME™ DNA Polymerase can be increased with the use of **2x Poly-Mate** (not supplied, see associated products), which is designed for GC- or AT-rich DNA, "dirty" templates or sequences with difficult melting profiles.

Suggestions for use:
 ACCUZYME™ is a thermostable DNA polymerase which provides extremely high fidelity due to its 3' – 5' proof-reading exonuclease activity.

The suggested final concentration of Mg²⁺ in the reaction is likely to be 2-4mM, but some optimisation may be necessary to achieve the best possible results. Please, note that the reaction buffer already provides 2mM Mg²⁺. For first tests, use no less than 2.5 units of ACCUZYME in a 50µl reaction.

Storage Conditions:
 ACCUZYME™ DNA Polymerase can be stored at -20°C, in a constant-temperature freezer for 12 months. ACCUZYME™ will remain stable if stored as specified.
Storage buffer: 20mM Tris-HCl, pH 7.5, 100mM NaCl, 0.1mM EDTA, 2mM DTT, 50% Glycerol, and 0.1% Tween-20.

Shipping Conditions:
 Product is shipped at +4°C or -20°C. However, due to high stability features, trial samples are shipped at room temperature and we recommend usage within the following 3-4 weeks.

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.

<u>Associated products</u>		
Product Name	Pack Size	Cat No
dNTP Set	4 x 25µmol	BIO-39025
dNTP Mix 100mM total	1 x 500 µl	BIO-39028
40mM total	1 x 500 µl	BIO-39043
2x Poly-Mate Additive	2 x 1.2ml	BIO-37041
Accusure DNA polymerase	250 units	BIO-21068
	500 units	BIO-21069
Hyper Ladder I	200 lanes	BIO-33025
	500 lanes	BIO-33026
Agarose	500g	BIO-41025

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This product contains a declaration of analysis at the time of manufacture