ELISABETH PHARMACON Ltd.
Rokycanova 4437/5
615 00 Brno-Zidenice, Czech Republic
Phone: +420 542 213 851
E-mail: info@elisabeth.cz
Web: www.elisabeth.cz
VAT: CZ26258412

EliZyme™ FAST Taq

Intended use:

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

Storage:

Upon arrival store components at -20 °C. Avoid prolonged exposure to light. When stored under these conditions, the kit will retain full activity until the expiration date indicated on the kit label. Reagents may be stored at 4 °C up to 1 month.

Product description

EliZyme™ FAST Taq is a robust enzyme that can be used for a variety of everyday PCR applications, such as genotyping, screening, and library construction. This enzyme is capable of performing consistently well on a broad range of templates, including both GC and AT-rich sequences. EliZyme™ FAST Taq is known for delivering exceptional PCR performance on complex templates, including those with high GC content. While this enzyme does possess 5'-3' exonuclease activity, it lacks 3'-5' exonuclease (proofreading) activity, resulting in an error rate of approximately 1 error per 2.0 x 10^5 nucleotides incorporated. PCR products generated using EliZyme™ FAST Taq are A-tailed and can be easily cloned into TA vectors. The enzyme is highly versatile and is produced using an enhanced 12 step purification strategy that includes the physical, chemical, and enzymatic removal of host DNA. EliZyme™ FAST Taq is available in a 2X ready mix and can be purchased without dNTPs.

EliZyme™ FAST Taq MIX Red contains a red dye that makes it easy to track during agarose gel electrophoresis and is suitable for direct loading onto agarose gel. This enzyme provides the research community with an affordable routine application polymerase that performs to the highest possible standard, with the ability to amplify with the highest speed, yield, specificity, and consistency available on the market.

Content

	Ref. No.	Content	Size
EliZyme™ FAST Taq	EZ5005	1×0.1 ml 5 U/µl + 4×1 ml buffer	500 U
	EZ5010	2×0.1 ml 5 U/µl + 1×8 ml buffer	1000 U
	EZ5020	4×0.1 ml 5 U/µl + 2×8 ml buffer	2000 U
EliZyme™ FAST Taq (no dNTP)	EZ1010	1×0.2 ml 5 U/µl + 4×1 ml buffer	1000 U
	EZ1020	2×0.2 ml 5 U/µl + 1×8 ml buffer	2000 U
	EZ1040	4×0.2 ml 5 U/µl + 2×8 ml buffer	4000 U
EliZyme™ FAST Taq MIX	EZ5220	5×1 ml mix	200 rxns
	EZ5260	2×7.5 ml mix	600 rxns

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EliZyme™ FAST Taq MIX Red	EZ5120	5×1 ml mix	200 rxns
	EZ5160	2×7.5 ml mix	600 rxns

	Buffer/MIX	Content
EliZyme™ FAST Taq	5X buffer	15 mM $MgCl_2$, 5 mM dNTPs
EliZyme™ FAST Taq (no dNTP)	10X buffer	30 mM $MgCl_2$
EliZyme™ FAST Taq MIX	2X mix	6 mM $MgCl_2$, 2 mM dNTPs
EliZyme™ FAST Taq MIX Red	2X mix Red	6 mM $MgCl_2$, 2 mM dNTPs

Additional $MgCl_2$ is not necessary. The buffer composition has been optimized to maximize PCR success rates.

EliZyme™ FAST Taq (no dNTP)

A final reaction concentration of 1 mM dNTPs (0.25 mM for each dNTP) is recommended.

Primers

Primers should have a predicted melting temperature of around 60 °C. Primers should be designed to eliminate the possibility of primer-dimer formation and non-specific amplification. The final primer concentration in the reaction should be between 0.2 µM and 0.6 µM.

PCR

We recommend performing a temperature gradient to experimentally determine the optimal annealing temperature. Alternatively, we recommend a 55 °C annealing temperature then increase in 2 °C increments if non-specific products are present.

Optimal extension is achieved at 72 °C. The optimal extension time is dependent on amplicon length and complexity of template. 20 seconds per kilobase (kb) is recommended for amplification from eukaryotic DNA for amplicons between 1 kb and 6 kb. For shorter amplicons, faster cycling is possible.

Reaction setup

EliZyme™ FAST Taq

After thawing, briefly vortex 5X EliZyme™ Reaction Buffer and shortly spin.

Reagent	50 µl reaction	Final conc.
5X EliZyme™ Reaction Buffer	10 µl	1×
Forward primer (10 µM)	2 µl	400 nM
Reverse primer (10 µM)	2 µl	400 nM
Template DNA	< 500 ng genomic DNA, < 100 ng cDNA	Variable
EliZyme™ Taq DNA Polymerase (5 U/µl)	0.25 – 1 µl	

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PCR grade water	Up to 50 µl

EliZyme™ FAST Taq (no dNTP)

After thawing, briefly vortex 10X EliZyme™ Buffer and shortly spin.

Reagent	50 µl reaction	Final conc.
10X EliZyme™ Buffer	5 µl	1×
100 mM dNTPs (25 mM each)	0.5 µl	1 mM (0.25 mM each)
Forward primer (10 µM)	2 µl	400 nM
Reverse primer (10 µM)	2 µl	400 nM
Template DNA	< 500 ng genomic DNA, < 100 ng cDNA	Variable
EliZyme™ Classic Taq (5 U/µl)	0.25 – 1 µl	
PCR grade water	Up to 50 µl	

EliZyme™ FAST Taq MIX

After thawing, briefly vortex the mix and shortly spin.

Reagent	50 µl reaction	Final conc.
2X EliZyme™ Taq MIX	25 µl	1×
Forward primer (10 µM)	2 µl	400 nM
Reverse primer (10 µM)	2 µl	400 nM
Template DNA	< 500 ng genomic DNA, < 100 ng cDNA	Variable
PCR grade water	Up to 50 µl	

EliZyme™ FAST Taq MIX Red

After thawing, briefly vortex the mix and shortly spin.

Reagent	50 µl reaction	Final conc.
2X EliZyme™ Taq MIX Red	25 µl	1×
Forward primer (10 µM)	2 µl	400 nM
Reverse primer (10 µM)	2 µl	400 nM
Template DNA	< 500 ng genomic DNA, <100 ng cDNA	Variable
PCR grade water	Up to 50 µl	

PCR cycling profile

Step	Temperature	Time	Cycles
Initial denaturation	95 °C	1 min	1
Denaturation	95 °C	15 s	40
Annealing	55 – 65 °C	15 s	
Extension	72 °C	1 – 90 s*	

*15 s/kb, for amplicons shorter than 1 kb, 1 second extension may be used

Manufacturer:

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Catalog number

Batch code


Use by (last day of month)


Upper limit of temperature


Manufacturer

Contains sufficient "N" tests