Taq DNA Polymerase

Intact Genomics®

Catalog #	3243 / 3243d	3245 / 3245d
Package Size	1,000 units	5,000 units
Volume	1 ml	5 ml
Concentration	1 units/µl	

*Catalog numbers ending with "d" include separate dNTP mix.

Description

Intact Genomics (ig®) *Taq* DNA Polymerase is a thermostable DNA polymerase that possesses a 5´→3´ polymerase activity (1, 2) and a 5´ flap endonuclease activity (3, 4). This product is supplied with 10x PCR reaction buffer, containing MgCl2, which produces a final Mg2+ concentration of 1.5 mM. Ideal for primary extension reaction with DNA fragments having dA overhang on 3' ends.

Physical Purity

The physical purity of this enzyme is ≥98% as assessed by SDS-PAGE with Coomassie® blue staining (see figure below).

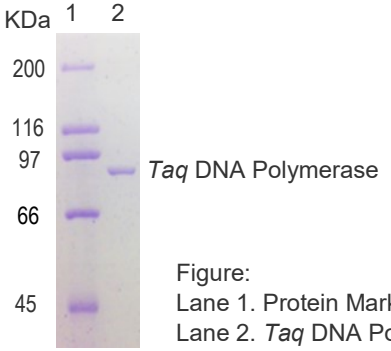
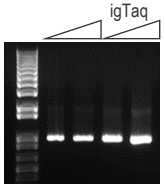


Figure:
Lane 1. Protein Marker
Lane 2. *Taq* DNA Polymerase

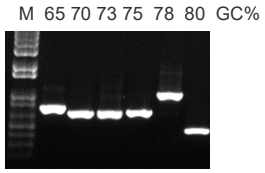
Product Source

E. coli strain expressing a Taq DNA Polymerase gene from Thermus aquaticus YT-1.

Taq Polymerase Comparison Data



Comparison of IG Taq with a top brand life tech company's Taq



Amplification of genes containing high GC (65-80%) with Intact Genomics GC enhancer

Applications

- Routing PCR cloning
- Primer extension
- Colony PCR
- Elongation efficiency 1.0-1.2 kb/min.
- Formulated for amplifying long target DNA.
- Efficient for amplifying high GC content DNA with Intact Genomics magic enhancer

Product Includes

1) Taq DNA Polymerase
2) 10x igTaq Buffer with Mg2+
3) 5x Magic Enhancer
4) 10 mM dNTP (Cat. # 3243d, 3245d only)

Storage Temperature: –20°C

Storage Buffer

50 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, pH 7.5 @ 25ºC

10x PCR Buffer with Mg2+

100 mM Tris-HCl pH 8.0, 15 mM $MgCl_2$, 100 mM KCl, 80 mM $(NH_4)_2SO_4$, 0.5% Igepal CA 630

Unit Definition

One unit is defined as the amount of enzyme that incorporates 10 nmoles of dNTP into acid-insoluble form in 30 minutes at 72 ºC.

Protocol

1. Thaw PCR buffer, dNTP, Primer solutions, 5x Magic Enhancer (if required) and mix thoroughly before use.
2. Prepare a reaction mix according to the following table:

(The reaction mix typically contains all the components needed for PCR except the template.)

PCR Reaction Set Up:	
Template	~ 1- 50 ng
10x igTaq buffer	2.0 µl
dNTP (10 mM)	0.4 µl
Forward primer (3.2 µM)	1.0 µl
Reverse primer (3.2 µM)	1.0 µl
5x Magic Enhancer (optional)	4.0 µl
Taq DNA Polymerase (1 U)	1.0 µl
H_2O up to	20.0 µl

3. Mix the reaction mixture thoroughly.
4. Add template DNA to the individual PCR tubes containing the reaction mixture.
5. Program the thermal cycler according to the manufacturer's instructions. A typical PCR cycling program is outlined in the following table:

PCR Cycling Conditions			
Steps	**Temp.**	**Time**	**Cycles**
Initial Denaturation	94 ºC	3 min	1
Denaturation	94 ºC	30 sec	25-35
Annealing	55-60 ºC	40 sec	
Extension	72 ºC	1-2 min	
Final Extension	72 ºC	7 min	1
Hold	4-12 ºC	∞	

6. Place the PCR tubes in the thermal cycler and start the cycling program.

Reference

1. EChien, A., Edgar, D.B. and Trela, J.M. (1976). J. Bact. 127, 1550-1557.
2. Lawyer, F.C. et al. (1993). PCR Methods and Appl. 2, 275-287.
3. Longley, M.J., Bennett, S.E. and Mosbaugh D.W. (1990). Nucleic Acids Res. 18, 7317-7322.
4. Lyamichev, V., Brow, M.A. and Dahlberg, J.E. (1993). Science. 260, 778-783.

Related Products

1. Hot Start Taq DNA Polymerase (Cat.# 3293)
2. Taq DNA Polymerase 2x Premix (Cat.# 3249)
3. i7® High-Fidelity DNA Polymerase (Cat# 3254, 3255)
4. i7® High-Fidelity DNA Polymerase 2x Master Mix (Cat# 3257, 3259)

Technical Support

Intact Genomics is committed to supporting the worldwide scientific research community by supplying the highest quality reagents. Each new lot of our products is tested to ensure they meet the quality standards and specifications designated for the product.

Please follow the instructions carefully and contact us if additional assistance is needed. We appreciate your business and your feedback regarding the performance of our products in your applications.