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DATA SHEET

Version: 2
Revision date: 03/05/2023

1. Identification

Product name **Horse-Power™ GC PCR Enhancer**
100 rxn

Cat. No **P0080**

2. Description

Horse-Power Taq DNA polymerase is a thermostable recombinant enzyme produced in a E. coli strain, that carries the cloned pol gene from Thermus aquaticus. The enzyme has 5'→3' polymerase activity and a weak 5'→3' exonuclease activity but no 3'→5' exonuclease activity (proofreading).
The kit includes GC PCR Enhancer Solution (10x), supplied in a separate vial, enables you to amplify high-GC content targets easily and reproducibly. The presence of secondary structures by a high GC content is one of the reasons that reduce or cancel the PCR yield. **GC PCR Enhancer Kit** allows PCR amplifications of targets with high GC content. GC PCR Enhancer is a PCR additive, used in conjunction with DNA polymerase to optimise PCR of GC-rich templates.
10X GC enhancer solution should be used with DNA polymerase to optimize PCR from complex templates including GC rich. The storage concentration is 10×. The working concentration can be varied from 0.5× to 2.5×.

3. Composition

Item	Quantity
Horse-Power Taq DNA polymerase (5U/µL)	100 µL
10X PCR Buffer	1.5 mL
25mM MgCl2 Solution	1.5 mL
dNTPs (2mM each)	1 mL
10X GC Enhacer solution	1 mL

4. Quality Certifications

- Functionally tested in PCR.
- Undetected bacterial DNA (by PCR).
- Undetectable nucleases activity (endo-, exo- and ribonucleases).

5. Storage specifications

Store at -20° C

6. Applications

- Routine amplifications.
- PCR or GC-rich templates.
- Amplifications up to 5 kb using plasmid, viral or genomic DNA as template.
- PCR fragments amplification for TA cloning.

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7. Further information

Product Use Limitation This product is developed, designed, and sold exclusively only for research purposes use. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.

Disclaimer The information provided in this Data Sheet is correct to the best of our knowledge and belief at the date of publication. This information is intended only as a guide and should not be taken as a warranty or quality specification. Canvax Reagents S.L.U. shall not be held liable for any damage resulting from handling or from contact with the above product.

Assay conditions

25 mM Tris-HCl pH 9.0 at 25 ˚C, 50 mM KCl, 2 mg MgCl2, 0.1 mg/mL gelatine, 200 µM dATP, dGTP, dTTP, 100 µM [α32-P] dCTP (0.05 µCi/nmol) and 12.5 µg activated salmon sperm DNA.

RECOMMENDED PCR ASSAY (20µL assay)

Components	Volume	Final con.
10X PCR buffer	2 µL	1X
MgCl2 25mM	2 µL	2.5 mM
dNTPs 8mM mix	2 µL	0.8 mM
Primer Forward (15mM)	1 µL	0.75 µm
Primer Reverse (15mM)	1 µL	0.75 µm
Template DNA	0.2-10 µL	1.75-2.50 ng/µL
Horse-Power Taq DNA polymerase (5 U/µl)	0.2 µL	0.05 U/µL
GC PCR Enhancer Solution (10X)	2-6 µL	1-3X
Water (Molecular biology grade)	to 20 µL	-

Cycling instructions:

- 94 °C 5:00, 25-30x (95 °C 0:30, Tm 0:30, 72°C 1'/kb)
- 72 °C 10:00
- 4 °C ∞