

Thermoprime Plus DNA Polymerase with 10X ReddyMix™ PCR Buffer

Description: An ultrapure recombinant thermostable DNA polymerase obtained by high level expression of the *Taq* DNA polymerase gene in *E. coli*. The enzyme exhibits enhanced thermal stability at DNA denaturation temperatures and can be shipped at ambient temperature with no loss of activity. It is licensed and optimised for use in the Polymerase Chain Reaction (PCR) process.

ReddyMix™ PCR Buffer has an inert red tracker dye and a precipitant added. After thermal cycling a sample (10–30%) of the PCR mix may be loaded directly onto an agarose gel without the addition of gel loading buffer. The dye migrates between bromophenol blue and xylene cyanol at approximately 300bp, depending on agarose concentration.

Ordering Information:	AB-0790	Thermoprime Plus with 10X ReddyMix™ PCR Buffer plus a separate vial of 25mM MgCl ₂	250 units
	AB-0790/b	Thermoprime Plus with 10X ReddyMix™ PCR Buffer plus a separate vial of 25mM MgCl ₂	2,500 units

Concentration: 5 units/μl

Unit Definition: One unit of enzyme is defined as the amount that will incorporate 10nmoles of dNTPs into acid insoluble material in 30 minutes at 74°C.

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Storage and Dilution Buffer:	100mM 20mM 0.1mM 1mM 0.5% 0.5% 50% (v/v) MgCl ₂	KCl Tris-HCl, pH 8.0 (at 25°C) EDTA (ethylenediaminetetraacetic acid) DTT (dithiothreitol) Tween® 20 Nonidet® P40 Glycerol
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Prior to use, defrost thoroughly and invert vial several times to ensure an even concentration of solution is obtained.

ReddyMix™ Reaction Buffer (10X):	750mM 200mM 0.1% (v/v) 15mM	Tris-HCl, pH 8.8 (at 25°C) (NH ₄) ₂ SO ₄ Tween® 20 MgCl ₂ (optional) Red dye and precipitant
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Storage Conditions: Store thermostable DNA polymerase below 0°C, preferably at -20°C, in a constant temperature freezer. Shipping at ambient temperature has no detrimental effect on the performance of this enzyme.

Associated Activities: The enzyme has 5' to 3' polymerisation-dependent exonuclease replacement activity but lacks a 3' to 5' exonuclease activity.

Protocol: Basic protocols for PCR are detailed in the back of the ABgene® catalogue or at www.abgene.com.

Use 1.25 units of enzyme in a typical 50µl PCR mix. 10X ReddyMix™ PCR Buffer should be diluted 1:10 in the final PCR mix. Loading dye is not required for electrophoresis.

Tip: The gel precipitant in ReddyMix™ Buffer causes a slight increase in the thermal mass of the reaction mix. In a small number of cases this may necessitate some minor re-optimisation of the thermal cycler programme. If this is the case we suggest increasing the temperature of the denaturation step by 1–2°C and decreasing the temperature of the annealing step by 1–2°C. Alternatively, increase the duration of each step by 5–10 seconds.

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