

KOD Xpress™ DNA Polymerase

Features

- ❖ High - fidelity DNA Polymerase.
- ❖ Fast extension speed and high proofreading activity.
- ❖ Robust amplification with minimum optimization.
- ❖ High accuracy and yields of PCR products.
- ❖ Amplification of long targets up to 14kb.

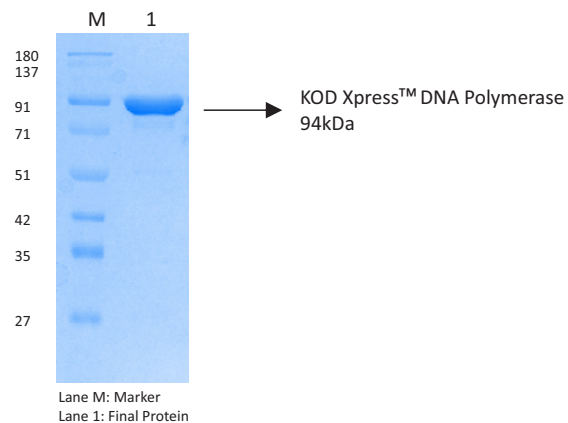
Applications

- ❖ Real - time PCR.
- ❖ End - point PCR.
- ❖ Highly specific amplification of GC - rich templates.
- ❖ Generation of blunt - ended PCR product suitable for blunt - end cloning.
- ❖ Amplification from different sources of template: *E. coli*, Human, Plant, Lambda and Plasmid DNA.

KOD Xpress™ DNA Polymerase is derived from recombinant expression of a genetically modified form of thermostable DNA polymerase from hyperthermophilic archaeon *Thermococcus kodakaraensis* expressed in *E. coli*. The 94kDa enzyme catalyzes 5' to 3' polymerase activity, 3' to 5' exonuclease (proofreading) activity and has no 5' to 3' exonuclease activity. KOD Xpress™ DNA Polymerase is ideal for standard PCR of templates up to 14Kb.

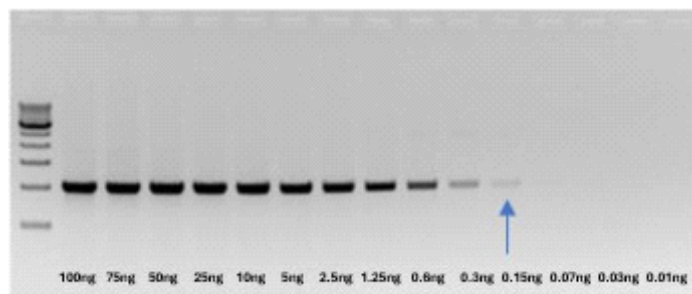
The KOD Xpress™ DNA Polymerase was characterized in different assays.

Purity by SDS-PAGE



Purified KOD Xpress™ DNA Polymerase was run on a 10% SDS-PAGE and stained with Coomassie blue. KOD Xpress™ DNA Polymerase appeared as a single band at 94kDa.

Sensitivity



Bacterial genomic DNA was used as template. Different concentrations of template was prepared from a 100ng stock and 1Kb gene was amplified using the optimized master mix and the amplification protocol. The bands were visualized by agarose gel electrophoresis. The KOD Xpress™ DNA Polymerase amplified template at a concentration as low as 0.15ng.

Quality Control

- ❖ **Purity:** >95% by SDS-PAGE.
- ❖ **Activity:** The enzyme activity was estimated by real-time PCR assay using appropriate reference standard with known activity.
- ❖ **Nuclease assays:** No detectable endonuclease, exonuclease and RNase activity.
- ❖ ***E. coli* host contamination:** No *E. coli* DNA contamination was detected in real-time PCR with specific primers targeting 16S rRNA gene.
- ❖ **Functional assay:** DNA polymerase tested extensively for its reproducible performance in critical PCR amplifications.

Certifications:

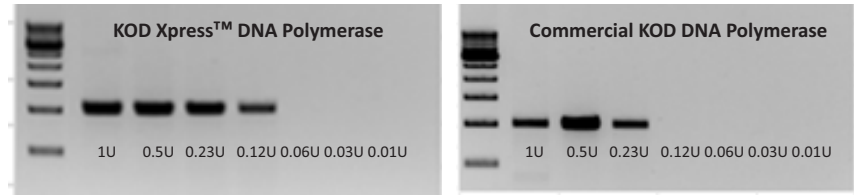
ISO9001:2015



ISO13485:2016

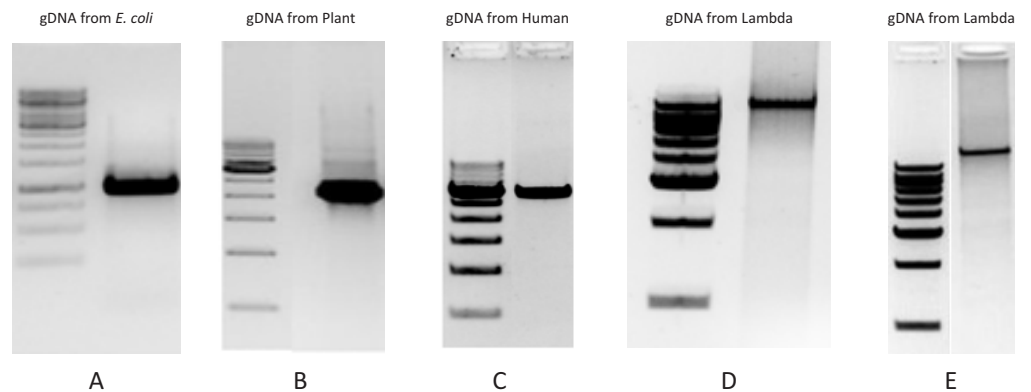


Functionality



Different concentrations of KOD Xpress™ DNA Polymerase was prepared from a 1U/ul stock. Bacterial gDNA was used as a template and 1Kb gene was amplified using the optimized buffer and the amplification protocol. The bands were visualized by agarose gel electrophoresis. Functional activity of KOD Xpress™ DNA Polymerase was observed at a concentration of 0.12U which was significantly lower than the commercial product.

Amplification of targets from different sources



- Filamenting temperature -sensitive mutant Z (1Kb, FtsZ).
- 2Kb of targeted Chloroplast gene.
- Tissue-type plasminogen activator (3Kb, TPA).
- 10Kb of targeted Lambda DNA.
- 14Kb of targeted Lambda DNA.

Primers were designed for specific gene targets for the above-mentioned sources. Genomic DNA was isolated from respective sources and the target genes were amplified by optimized amplification protocol using KOD Xpress™ DNA Polymerase. Specific genes efficiently amplified from all the four sources.

Ordering Information

Sl. No.	Catalogue Number	PI No.	Product Description	Pack Size
1	0605900021730	MME59L	KOD Xpress™ DNA Polymerase (2.5U/μl)	100U
2	0605900031730	MME59J	KOD Xpress™ DNA Polymerase (2.5U/μl)	250U

Contact us

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