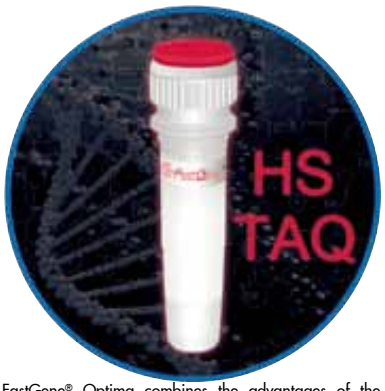
FastGene® Optima

The perfect polymerase mixture



FastGene® Optima combines the advantages of the regular Taq with the proof-reading ability of Type B Polymerases. The product are A-tailed therefore compatible with TA cloning systems.

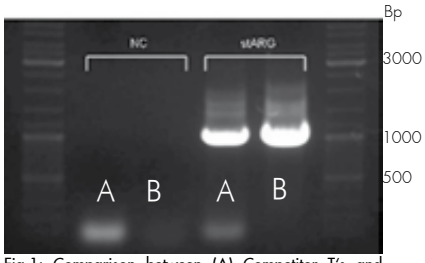


Fig.1: Comparison between (A) Competitor T's and (B) FastGene® Optima polymerase mixture using the hard to amplify catshark liver DNA as template. The PCR product has a size of 1030 bp and separated onto an 1.2% agarose gel. The FastGene® Optima produces much less primer dimers and has a higher amplification efficiency.

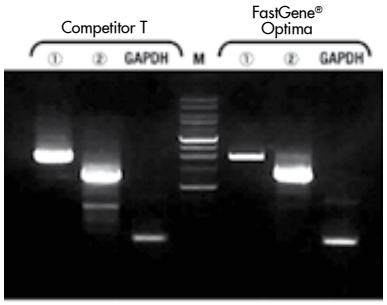


Fig. 2: Comparing the ability of Competitor T's and FastGene® Optima polymerase mixture to amplify GC-Rich DNA fragments. Two fragments of 60.7 % and 64.3% were amplified resulting in two products of 1839 bp and 1260 bp, repectively. FastGene® Optima had a higher efficiency compared to Competitor T's polymerase mixture.
Data was kindly provided by Ms. Ryoko Nakayama, Department of Pathology, Tsurumi University, Japan.

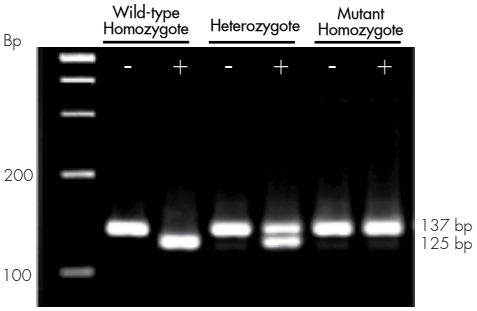


Fig. 3: SNP typing of the ALDH gene using FastGene® Optima polymerase. The ALDH classified as human sensitivity to alcohol gene was analysed for presence of a SNP by digesting the amplification of homo- and heterozygotes using *Mbo*II. *Data was kindly provided by Dr. Che Xiano-Fang, Department of Biochemistry, Tokyo Medical University, Japan.*

Optima - the optimum of both polymerase families

The FastGene® Optima is a mixture of a highly purified Taq Polymerase and a modified type-B polymerase with proof-reading abilities. The enzymes are purified using three different chromatography technologies and result in a very high purity and very high activity. The FastGene® Optima is extremly robust and was developed for the standard, difficult PCR as well as very long amplicons of over 7.5 kBp.

Applications

- Standard PCR
- RT-PCR
- Very complex templates
- GC-rich templates
- SNP-typing
- Multiplex PCR
- many others…

Optima(l) robustness for very complex samples

The FastGene® Optima can handle very complicated templates. The highly purified Taq polymerase gives high efficiency while the proof reading polymerase guarantees the fidelity. The robustness of both enzymes makes the amplification of complex tissue, such as liver (Fig. 1), possible.

Optima(l) efficiency for GC-rich templates

Most polymerases have a very low amplification efficiency if the template DNA is GC-rich. As seen in Fig. 2, the FastGene® Optima has an excellent amplifcation efficiency even with GC-rich templates, which is even higher compared to the efficiency of polymerases especially designed for GC-rich templates (Fig. 2).

Optima(l) for SNP-typing

The detection of single nucleotide polymorphism (SNP) requires extreme fidelity. The proof-reading activity guarantees this needed fidelity (see Fig.3).

Ordering Information

Cat. No.	*Product*	*Content*
LS28	FastGene® Optima PCR kit	250 Units
LS29	FastGene® Optima HotStart ReadyMix	500 x 25 µl rxns