



Accura™ High-Fidelity Polymerase



High-fidelity amplification without the high cost

- **High-Fidelity:** Ideal for cloning and protein expression
- **Flexibility:** HF and GC buffers included to handle even the toughest targets
- **Performance:** Robust amplification and sensitivity
- **Price:** The most cost effective high-fidelity polymerase available

Accura™ High-Fidelity Polymerase is the perfect solution for your everyday amplification and cloning needs.

Amplify your genes for cloning and protein expression applications with confidence while getting the most out of your laboratory budget. Accura High-Fidelity Polymerase delivers the accuracy you need for cloning and protein expression, generating equivalent numbers of functional clones when compared to Phusion, and significantly more than when using Taq (Fig. 1).

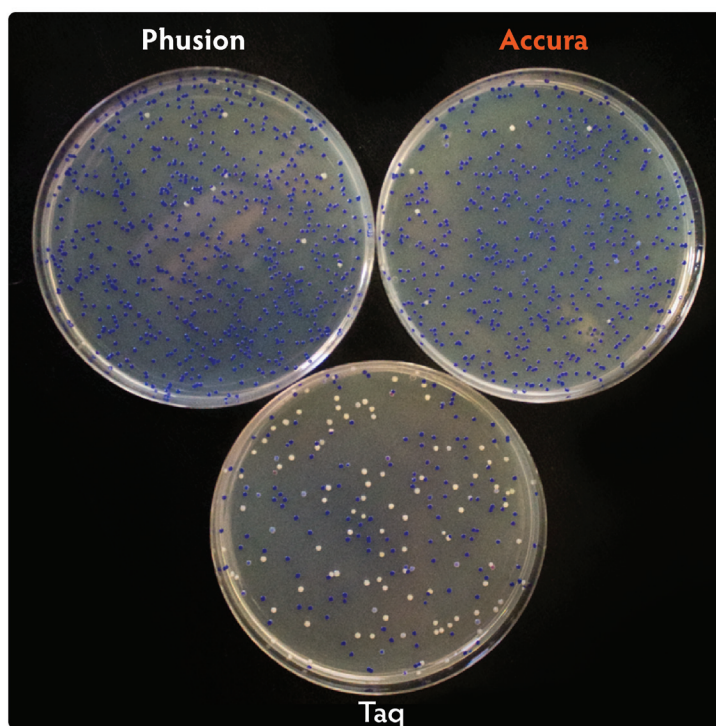


Figure 1. A 700bp blue colored protein gene was amplified using manufacturer's recommended conditions for Phusion® High-Fidelity DNA polymerase (Thermo-Fisher), Accura™ High-Fidelity Polymerase, and standard fidelity EconoTaq® (Lucigen). The amplicons were then cloned using the Expresso® Rhamnose Cloning and Expression system (Lucigen). Blue colonies represent functionally accurate amplification of the gene of interest, while white colonies represent non-functional genes with sequence errors due to low-fidelity amplification. Some white colonies may also be due to empty vector. Accura and Phusion show a similar percentage of correct genes, both significantly better than compared to Taq polymerase.

Flexibility

Accura™ High-Fidelity Polymerase kits contain everything you need to obtain your amplicon of interest. HF buffer ensures the highest yield and fidelity, but for high GC % or difficult to amplify targets, use the included GC buffer to achieve results where other polymerases fail or produce spurious bands (Fig. 2).

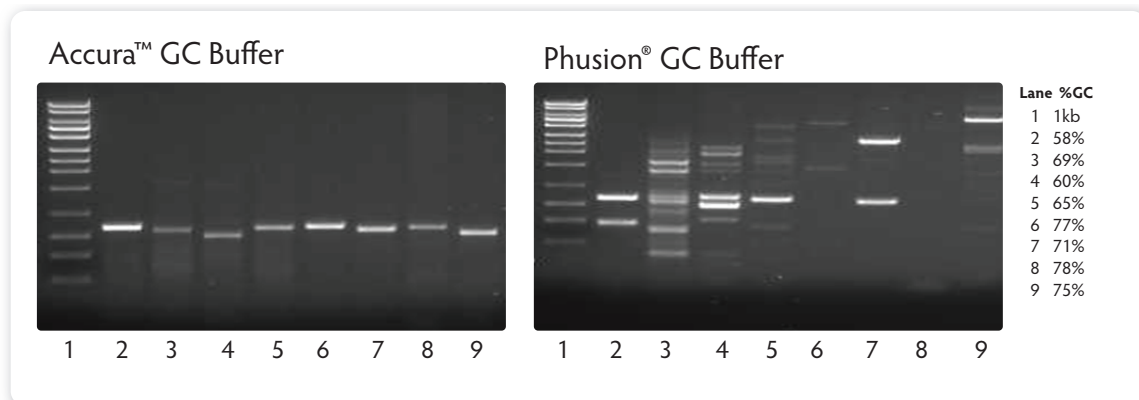


Figure 2. Amplification of Human DNA "Tough Template" targets with elevated GC content of 58-78%. Sequences were amplified using published primers (Zhang (2009) Biotechniques 47:775-8) from purified human genomic DNA. Accura High-Fidelity Polymerase and Phusion were compared using their respective GC reaction buffers and manufacturer recommended conditions.

Performance

Easily amplify any standard gene for your day-to-day cloning and protein expression with Accura High-Fidelity DNA Polymerase using normal cycling conditions. When used according to recommendations, Accura High-Fidelity polymerase results in robust amplification of normal, high GC% or otherwise difficult templates. Accura routinely amplifies targets of up to 5 kb; larger targets of up to 10 kb have been achieved with optimization.



Figure 3. A) Amplification of two separate 3 Kb targets (polA and lacZ) using Accura High-Fidelity Polymerase with HF buffer and standard thermal cycling conditions. B) Amplification of a 5 Kb human DNA target (BRCA1).

Products	Size	Cat. No.
Accura™ High-Fidelity Polymerase	100 U	30010-1
	500 U	30010-2

Each Accura High-Fidelity Polymerase Kit contains: 100 or 500 U of Accura High-Fidelity Polymerase (2U/μl), 2X Accura HF Reaction Buffer, 10X Accura GC Reaction buffer, and 5M Betaine. Complete protocols are available online at www.lucigen.com/manuals.