DeCodi-Fi™
LONG&COMPLEX

KURA® biotech

Amplify what others can't.

DeCodi-Fi™ Long&Complex is a **high-fidelity polymerase** designed for **long and challenging DNA amplification,** ultra-GC-rich, repetitive regions, and low-input samples, with the fidelity and precision that define the DeCodi-Fi™ family.

Built for researchers working with **long-read sequencing, gene synthesis, and complex genomic assemblies,** it enables reliable and **accurate amplification where other polymerases fail.**

CORE HIGHLIGHTS

◆ **LONG FRAGMENT AMPLIFICATION**
Robust amplification of fragments up to 30 kb from human genomic DNA.

◆ **HIGH GC CONTENT TOLERANCE**
Efficient amplification of targets with up to 90% GC content.

◆ **PERFORMANCE ON REPEAT REGIONS**
Reliable performance on challenging GC-rich repeat regions.

◆ **LOW INPUT**
High sensitivity: works with as little as 5 pg of input DNA.

◆ **FAST EXTENSION RATE**
Fast extension speeds, less than 15 seconds per kb.

LOW INPUT

Push the limits of long-read sequencing with low input. DeCodi-Fi™ Long&Complex amplifies long fragments from just 5 pg—where others fail even at 50 pg.

Amplification of the 17.6 kb human beta globin gene was performed using DeCodi-Fi™ Long&Complex High-Fidelity Polymerase and KOD Xtreme™ Hot Start DNA Polymerase. Each target was amplified from different inputs in a 25 µL reaction: 1000 pg, 125 pg, and 50 pg. A no-template control (0 pg) was also included. All reactions were performed following the optimized conditions for each enzyme and using 30 cycles. The experiment was run in triplicate.

EXTREME GC CAPABILITY

Reliably amplifies templates up to **90% GC**, achieving **higher yield and half the extension time.**
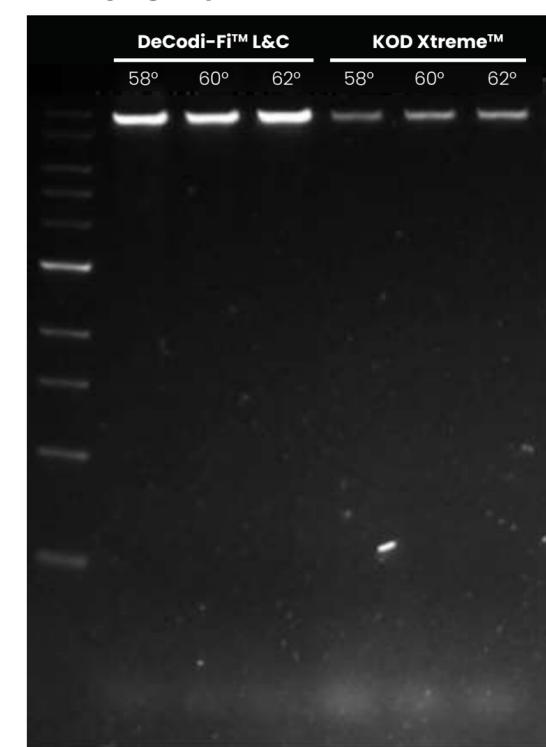
Amplification of the 10 kb human *IGF2R* gene, containing a 90% GC-rich region, using DeCodi-Fi™ Long&Complex and KOD Xtreme™ polymerases. Reactions were performed from 10ng of input DNA under each enzyme's optimized conditions, with annealing temperatures of 58ºC, 60ºC, and 62ºC, and 28 PCR cycles.

LONG-RANGE POWER

Robust amplification of **30 kb human fragments,** delivering cleaner profiles with minimal background.
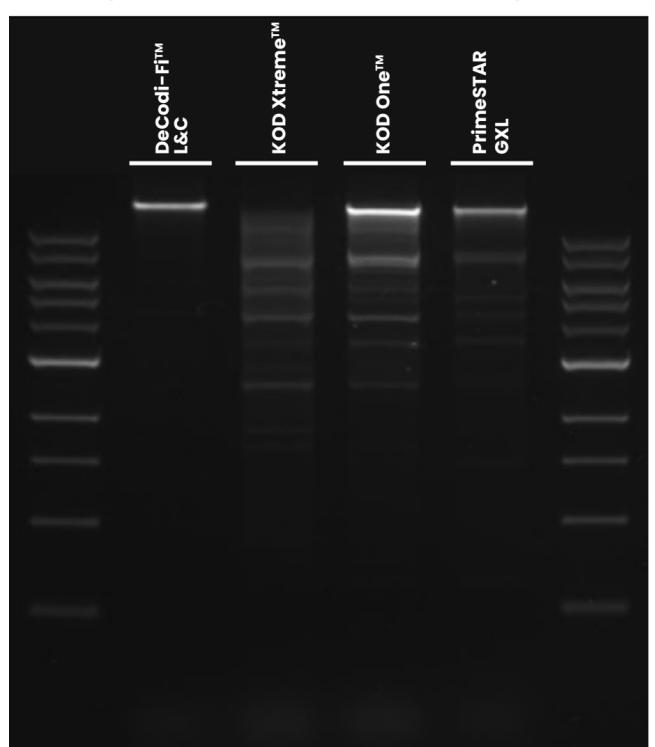
Amplification of human DNA 30 kb with DeCodi-Fi™ Long&Complex, KOD Xtreme™, KOD One™ and PrimeSTAR GXL. Each target was amplified from 10 ng of input. Reactions were performed following the optimized conditions for each enzyme and using 30 cycles.

HIGH-COMPLEXITY ACCURACY

Clean, defined bands for **20 kb with 70% GC** fragments, outperforming competitors in clarity and specificity.
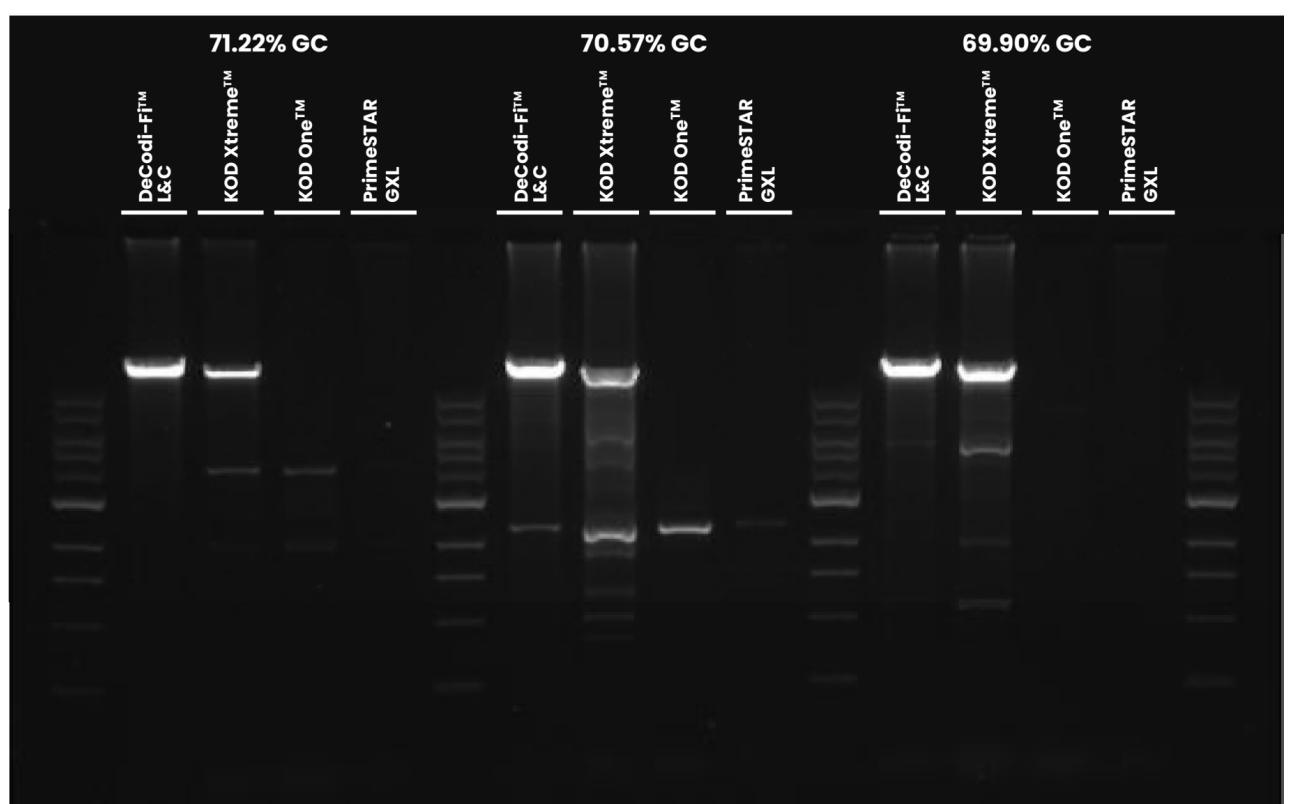
Amplification of *Streptomyces leeuwenhoekii* gDNA 20kb with DeCodi-Fi™ Long&Complex, KOD Xtreme™, KOD One™ and PrimeSTAR GXL. All PCRs contained 4ng of input. Reactions were performed following the optimized conditions for each enzyme and using 27 cycles.

Validated on repetitive DNA regions

Robust amplification of repeats of different lengths, such as the GAA repeats in Friedreich ataxia, up to 4,010 bp.