ENHANCED SPEED POLYMERASES FOR SANGER SEQUENCING

Tech ID: 29207 / UC Case 2018-109-0

PATENT STATUS

Patent Pending

BRIEF DESCRIPTION

Sanger sequencing has remained a dominant DNA sequencing methodology for molecular biology research and development for many years. The main commercially available DNA polymerase developed for Sanger sequencing has a slow extension speed and has difficulties sequencing secondary structures such as GC rich regions, hairpins, mono- and poly-nucleotide repeats. While specialized plastics and reductions in reaction volumes to improve Sanger sequencing reaction times, any gains in sequencing assay performance (e.g., sequencing time or throughput) are offset by increased costs associated with a terminator reagent. During the last two decades, further refinement and advancement of suitable DNA polymerases to improve polymerization speeds during Sanger sequencing have been limited. Thus, there remains a need for improved DNA polymerases suitable for Sanger sequencing that possess enhanced elongation speeds, and the ability to sequence through secondary structures present in DNA templates.

A UC Berkeley researchers has discovered compositions and methods for preparing and using Taq DNA polymerases with improved Sanger sequencing elongation sequencing rates as compared to commercially available Sanger sequencing reagents.

SUGGESTED USES

- DNA sequencing

ADVANTAGES

- Improved Sanger sequencing elongation speeds

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OTHER INFORMATION

KEYWORDS

PCR, Sanger, polymerase

CATEGORIZED AS

- **Biotechnology**
  - Genomics
- **Materials & Chemicals**
  - Biological
- **Research Tools**
  - Nucleic Acids/DNA/RNA

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