



US 20050142559A1

(19) **United States**
 (12) **Patent Application Publication** (10) **Pub. No.: US 2005/0142559 A1**
Makrigiorgos (43) **Pub. Date: Jun. 30, 2005**

(54) **AMPLIFICATION OF DNA IN A HAIRPIN STRUCTURE, AND APPLICATIONS**

Related U.S. Application Data

(75) Inventor: **G. Mike Makrigiorgos**, Brookline, MA (US)

(60) Provisional application No. 60/440,184, filed on Jan. 15, 2003.

Correspondence Address:
Ronald I. Eisenstein
NIXON PEABODY LLP
100 Summer Street
Boston, MA 02110 (US)

Publication Classification

(51) **Int. Cl.⁷** **C12Q 1/68**; C12P 19/34
(52) **U.S. Cl.** **435/6**; 435/91.2

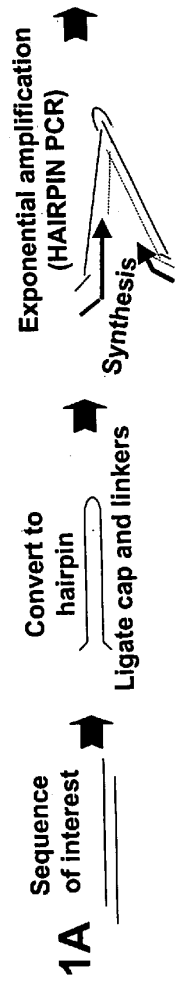
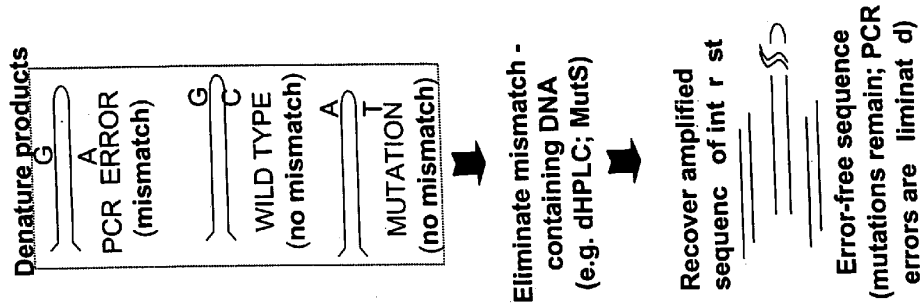
(73) Assignee: **Dana-Farber Cancer Institute, Inc.**, Boston, MA (US)

(57) **ABSTRACT**

(21) Appl. No.: **10/758,401**

The present invention is directed to a hairpin nucleic acid structure and its use. In a preferred embodiment, the hairpin nucleic acid structure can be used in a method of amplification of a template nucleic acid sequence that substantially reduces polymerase-induced errors.

(22) Filed: **Jan. 15, 2004**



1B

PRIMERS CANNOT BIND
 ATTTAAATGTTTAAACACGGGGTGAAGCTTAATTAACCTAGTGCCTTA
 TAAATTTACAAAATTTGTAGCCCACTGAAATTAATTTGAAGTGGGAT
 HAIRPIN A

1C

PRIMER BINDING REGION
 5' ACCGACGTCGACTATCCGGGA
 CACTTCCCAACACACCCAGCTCTCTCCCGCCGAGAGAACCACTGATGGAGATATTCACCCCTCAGAA
 HAIRPIN D (p53 exon 9)
 3' TACCGGTTGTGTGTGCGGGGGTGGTTCTTCTCTTGTGTGACCTACTACTCTTAAAGTGGAGATDAA
 PRIMER BINDING REGION
 3' ACCGCACTCTCCGACCTCTCAGAA

FIGURE 1

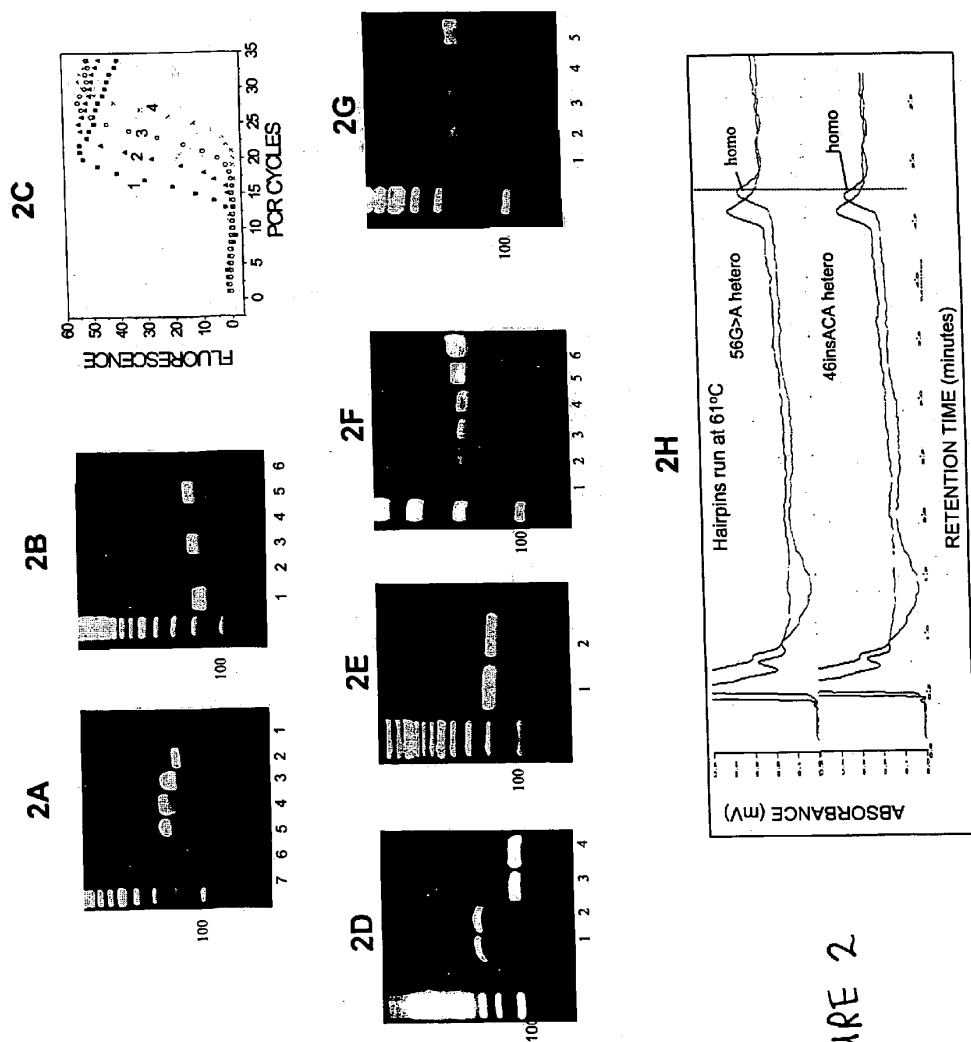


FIGURE 2

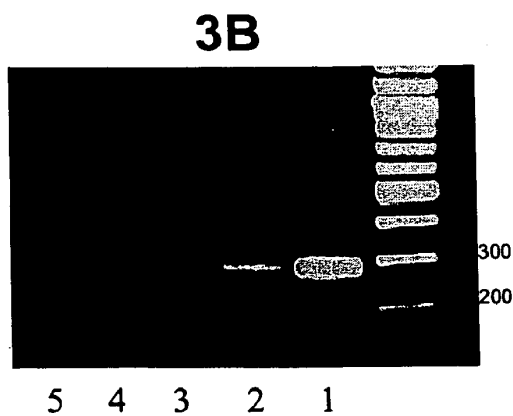
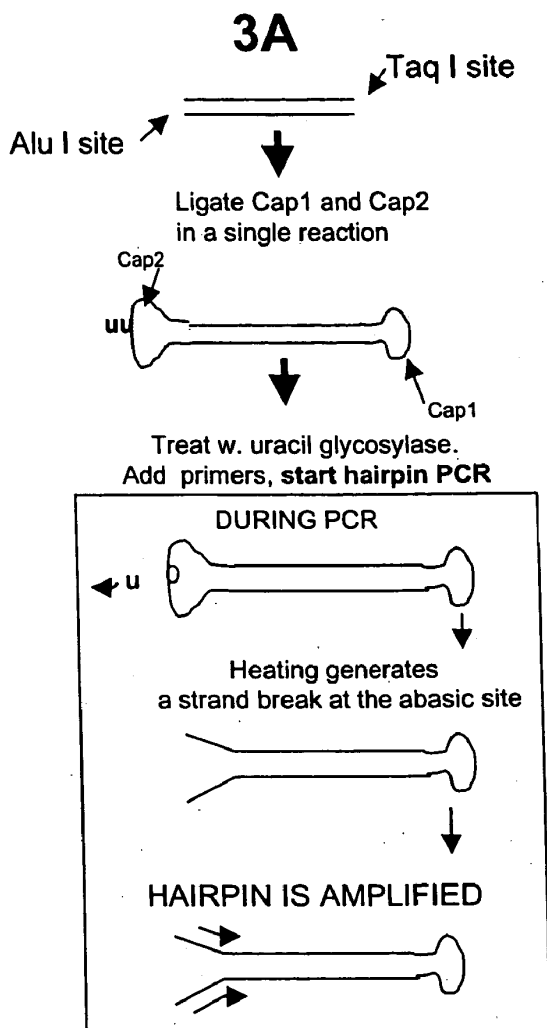
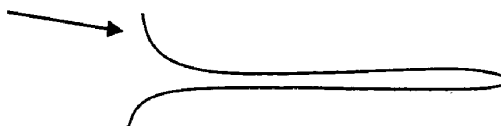


FIGURE 3

Figure 4A

primer-binding site

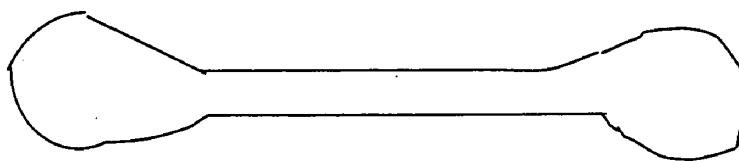


primer-binding site



Figure 4B

primer-binding site



primer-binding site

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.