Randomly Amplified Polymorphic Dna Encyclopedia Article

Randomly Amplified Polymorphic Dna

The following sections of this BookRags Literature Study Guide is offprint from Gale's For Students Series: Presenting Analysis, Context, and Criticism on Commonly Studied Works: Introduction, Author Biography, Plot Summary, Characters, Themes, Style, Historical Context, Critical Overview, Criticism and Critical Essays, Media Adaptations, Topics for Further Study, Compare & Contrast, What Do I Read Next?, For Further Study, and Sources.

(c)1998-2002; (c)2002 by Gale. Gale is an imprint of The Gale Group, Inc., a division of Thomson Learning, Inc. Gale and Design and Thomson Learning are trademarks used herein under license.

The following sections, if they exist, are offprint from Beacham's Encyclopedia of Popular Fiction: "Social Concerns", "Thematic Overview", "Techniques", "Literary Precedents", "Key Questions", "Related Titles", "Adaptations", "Related Web Sites". (c)1994-2005, by Walton Beacham.

The following sections, if they exist, are offprint from Beacham's Guide to Literature for Young Adults: "About the Author", "Overview", "Setting", "Literary Qualities", "Social Sensitivity", "Topics for Discussion", "Ideas for Reports and Papers". (c)1994-2005, by Walton Beacham.

All other sections in this Literature Study Guide are owned and copyrighted by BookRags, Inc.

Contents

Randomly Amplified Polymorphic Dna Encyclopedia Article.....1

Contents.....2

Randomly Amplified Polymorphic Dna.....3

Randomly Amplified Polymorphic Dna

Randomly amplified polymorphic **DNA** (RAPD) is a technique that is useful as a rapid means of comparing and discriminating the DNA from different individuals. RAPD is based on random priming--the use of short pieces of DNA that bind to many random places in the **genome**. The DNA is then fragmented using **restriction enzymes**. Because of the small size of the probe DNA and the many fragments that can be generated, a very large number of reaction products can be obtained. The products can be separated based on their size by electrophoresis and detected by staining of the gel or, if the **primers** are radioactive, by the technique of **autoradiography**.

RAPD has been combined with the **polymerase chain reaction** (PCR). The use of PCR allows the DNA to the probe bound to be amplified in number to detectable levels, and so eliminated the need for a large amount of DNA at the commencement of an experiment. Older techniques, like **restriction fragment length polymorphism**, require large amounts of genomic DNA, are difficult to automate and require much time to complete.

RAPD has found a place as a technique for the rapid and preliminary examination of DNA. While useful in this regard, PCR-based fingerprinting techniques relying on random primers are not robust and generally are unsuitable for use as population markers, particularly in critical or demanding situations such as human diagnostics or courtroom evidence. RAPD has proved useful in discriminating genotypes of various prokaryotic and eukaryotic **species**.