

Dna Fingerprinting Encyclopedia Article

Dna Fingerprinting

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

Dna Fingerprinting Encyclopedia Article.....	1
Contents.....	2
Dna Fingerprinting.....	3

Dna Fingerprinting

DNA fingerprinting is the overall term applied to a range of techniques that are used to show dissimilarities between the DNA present in different individuals of the same or different species.

DNA fingerprinting requires DNA to be broken down, or digested by, enzymes. This digested DNA is then placed into an agarose **gel** along with other samples of DNA. These other samples may be test samples or they may be controlled samples, because it is vital to always include a standard piece of DNA to calibrate the results. The loaded gel is then placed in a liquid bath and an electric current is passed through the system. The fragments of DNA are of different sizes and different electrical charges. As a result, the fragments migrate down the gel in various distances. The DNA can be seen by the application of dye, producing a gel which has a series of lines showing where the DNA has migrated. The enzymes used for the digestion cut at specific locations and different-sized fragments are produced depending on the bases (that is, the particular sequence of nucleotides) present in the DNA. Fragments of the same size in different lanes indicate the DNA has been broken into segments the same size. This indicates homology between the sequences under test. The greater the number of enzymes used in the digestion, the finer the resultant resolution.

DNA fingerprinting is used in forensics to examine DNA samples taken from a crime scene and compare them to those of a suspect. The statistical chance of two samples of DNA producing identical digestion patterns different individuals is very small.