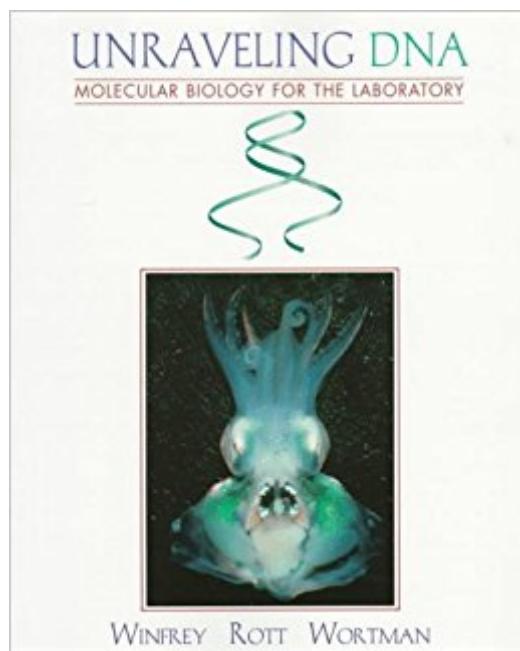


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# Unraveling DNA: Molecular Biology For The Laboratory



## **Synopsis**

This manual encompasses an integrated series of molecular biology laboratory exercises that involve the cloning and analysis of the bioluminescence (*lux*) genes from the marine bacterium *Vibrio fischeri*. The manual is divided into discrete units with each demonstrating one or more aspects of the cloning project. The manual is based on one of nature's most fascinating biological phenomenon: the biological production of light. This results in a recurrent theme of interest and makes the project very relevant to interdisciplinary topics such as fish symbiosis, biochemistry, biophysics, etc. Includes instruction in the basic techniques of modern molecular biology: DNA isolation and analysis, DNA restriction, agarose gel electrophoresis, ligations, transformation of recombinant DNA, preparation and screening a genomic library, restriction mapping, Southern blotting, hybridization, DNA sequencing, pulsed field gel electrophoresis. Designed for a one semester course in Molecular Biology. Also appropriate for a molecular biology component of Microbial Genetics, Genetics, Biochemistry, or Advanced Microbiology courses.

## **Book Information**

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## **Customer Reviews**

This innovative manual introduces students to all of the basic techniques of modern molecular biology using an integrated series of laboratory exercises that involve the cloning and analysis of the bioluminescence (*lux*) genes from the marine bacterium *Vibrio fischeri*. By organizing the exercises as part of a major cloning project, students get the sense of performing a complete cloning project, rather than just learning a collection of procedures. The manual is divided into

discrete units with each demonstrating one or more aspects of the cloning project. Collectively, the entire series of exercises requires approximately three quarters to one full semester to complete with two laboratory periods per week. Smaller portions of the manuals are easily adapted to fewer lab periods.

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Some out of date material and some experiments could be updated with newer procedures. Small amount of errors in some protocols. Overall, gets the job done.

When I opened this book I was appalled; around 100 pages are missing from the book rendering it unusable. Exercises 5-14 are missing from the book entirely, other exercises are missing key pages.

The product was perfect, I will order from them again!

I took Molecular Biology at Northern Michigan University in the Fall of 2001. This was the laboratory manual. From the start, when the professor brought in the glowing culture of *Vibrio fischeri* (Aliivibrio fischeri since 2007), I was hooked. We were told that we would be cloning the *lux* operon from this culture of cells. Toward the end of the semester, it was exciting to be sitting in the darkroom staring at a plate of colonies trying to see the ones that were luminescent. This goal tied together all the molecular biology we were learning that semester and led to the ultimate payoff of finding three

glowing colonies of E. coli on my plate. I was in the lab on September 11, 2001 doing an ethanol precipitation when the university decided to cancel classes. The professor (Dr. John Rebers) told us that the DNA was stable in ethanol at -20 and that we should get to that stage and stop. Overall, I felt that the labs were well designed and piqued my interest in molecular biology so much that I made a career of it. Now, 14 years later, I am a virologist who uses molecular biological techniques every day. This lab was fun, had an overarching goal that we were striving for all semester, and went well with the lecture portion of the class.

The material in the introductory text preceding most of the exercises lacks clarity, is poorly written and sadly confuses the reader. The introduction to the lux operon seems to be a very good example to illustrate the point. This book was made possible by a grant from the NSF and if the authors continue to market this book without revision it would be just be a travesty and an insult to intelligence. Please take note of the shortcomings of this book before deciding to buy it.

This is a wonderful text clear and concise, it explores the bulk of the basic lab techniques and procedures in molecular biology. This highly readable text builds on the cumulative experiences of some highly skilled academicians and researchers. Highly recommended for any molecular biology lab course or as a useful reference.

One of the best lab texts around. Provides a thorough exposure to the most commonly used molecular laboratory techniques. Highly recommended for faculty, who focus on creating a hands-on learning environment.

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