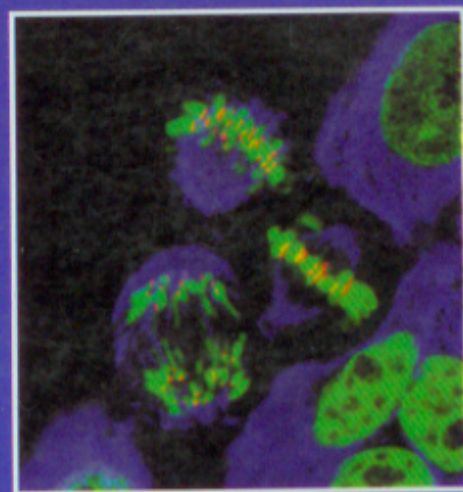


GREEN FLUORESCENT PROTEINS



Edited by

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The green fluorescent protein (GFP) has initiated a revolution in molecular cell biology, establishing a general approach to visualizing nearly any protein of interest in any cell, tissue, or species. Researchers working at all levels of biology, such as single-molecule dynamics, protein trafficking within cells, organelle dynamics, and cell and tissue behaviors during development, have made important use of GFP.

This volume is a practical guide to working with GFP and contains discussions of GFP biophysics and GFP mutants, design of GFP fusion proteins and expression systems, and detailed protocols for introducing and visualizing GFP in living cells. Methods for quantitative imaging, data analysis, and presentation are detailed by a select group of researchers who have made some of the key contributions to biofluorescent imaging technologies.

KEY FEATURES

- Discusses the design and construction of GFP fusion proteins
- Covers GFP expression in animals, insects, plants, and microbes
- Details procedures for time-lapse imaging of living cells
- Explains how to implement single-molecule fluorescence detection with GFP
- Discusses dual-label GFP strategies for multicolor fluorescence
- Presents fluorescence resonance energy transfer methods with GFPs
- Details quantitative fluorescence imaging techniques
- Extensively illustrated with color photographs

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