

PRACTICAL APPROACH

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Compiling a collection of all the techniques available in cell biology is an impossible task, so the challenge in writing this book was to identify those methods that are key to research progress and most relevant to researchers new to this topic. In reaching for this ambitious goal, this two-volume set of *Essential Cell Biology* covers both traditional and recent approaches. The background of each technique is described, together with detailed protocols and clear advice for trouble shooting. The hope is that these volumes will inspire readers to experience the challenges and rewards of cell biology research, while also providing a valuable compendium of essential methodology for both experienced and new researchers alike.

Essential Cell Biology Volume 1 focuses on techniques for studying cell structure while Volume 2 concentrates on understanding how cells function. Volume 1 covers techniques and approaches for observing and understanding cell morphology and cell structure. It describes light and electron microscopy, subcellular fractionation, protein purification and analysis, nucleic acid analysis, lipid analysis, and investigations of the cytoskeleton. This is the essential guide to cell biology for researchers new to the field.

Cover image: An optical photograph of a protein crystal with corresponding X-ray oscillation diffraction photograph and stick diagram of the amino acid fold of the protein (see Chapter 8 for further details).

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