

1. Record Nr.	UNINA9910784528503321
Autore	Maunsbach Arvid Bernhard
Titolo	Biomedical electron microscopy [[electronic resource]] : illustrated methods and interpretations // Arvid B. Maunsbach, Bjorn A. Afzelius
Pubbl/distr/stampa	San Diego, CA, : Academic Press, c1999
ISBN	1-281-27948-X 9786611279486 0-08-052809-0
Descrizione fisica	1 online resource (569 p.)
Altri autori (Persone)	AfzeliusBjorn
Disciplina	502.825 570.2825 570/.28/25 21
Soggetti	Electron microscopy - Technique Medical microscopy - Technique
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; BIOMEDICAL ELECTRON MICROSCOPY; Copyright Page; FOREWORD; PREFACE; ACKNOWLEDGMENTS; CHAPTER 1. MICROGRAPH INTERPRETATION; 1. Classical Preparation Method; 2. Low Temperature Approach; 3. A Common Test Specimen; 4. Detection of Objects; 5. Identification of Artifacts; 6. Analysis of Geometry; 7. Biological Identification; 8. Biological Diversity; 9. Analysis of Dynamics: Endocytosis; 10. Analysis of Dynamics: Synthesis; 11. Comparison of Methods; 12. Variations in Magnifications; 13. Interpretation Difficulties; 14. Diagnostic Pathology; CHAPTER 2. FIXATIVES 1. Osmium Tetroxide and Glutaraldehyde at Low Magnification2. Osmium Tetroxide and Glutaraldehyde at High Magnification; 3. Glutaraldehyde Concentration: Perfusion Fixation; 4. Glutaraldehyde Concentration: Immersion Fixation; 5. Long Fixation Times; 6. Formaldehyde-Glutaraldehyde Combinations; 7. Potassium Permanganate, Picric Acid, and Ruthenium Red; 8. Lead Salts and Tannic Acid; 9. Uranyl Acetate Postfixation; 10. Tannic Acid-Uranyl Acetate Variations; 11. Osmium Tetroxide-Potassium Ferrocyanide; 12. Osmium Tetroxide Artifacts; 13. Glutaraldehyde Artifacts; CHAPTER 3.

FIXATIVE VEHICLE

1. Absence and Presence of Buffer; 2. Comparison of Buffers; 3. Osmolality of Perfusion Fixatives; 4. Effects of Osmolality on Cell Shape; 5. Effects of Osmolality on Cell Organelles; 6. Adjustment of Osmolality with Sucrose; 7. Colloid Osmotic Pressure: Low Magnification; 8. Colloid Osmotic Pressure: High Magnification; 9. Phosphate Buffer Precipitate;

CHAPTER 4. FIXATIVE APPLICATION; 1. Perfusion-Fixation versus Immersion-Fixation; 2. Perfusion-Fixation with Pressure Control; 3. Fixation by Dripping in Vivo; 4. Immersion-Fixation; 5. Variability within the Tissue

6. Unsuccessful Perfusion-Fixation; 7. Superficial Tissue Damage; 8. Early Postmortal Changes; 9. Late Postmortal Changes; 10. Influence of Biopsy Method; 11. Microwave Treatment; CHAPTER 5. DEHYDRATION AND EMBEDDING; 1. Stepwise versus Direct Dehydration; 2. Prolonged Dehydration in Ethanol; 3. Prolonged Dehydration in Acetone; 4. Inert Dehydration; 5. Choice of Intermediate Solvent; 6. Epon, Araldite, and Vestopal: Unstained Sections; 7. Epon, Araldite, and Vestopal: Stained Sections; 8. Different Brands of Epoxy Resins; 9. Spurr and LR White; 10. Embedding of Isolated Cells

CHAPTER 6. FREEZING AND LOW-TEMPERATURE EMBEDDING; 1. Plunge Freezing; 2. Contact Freezing of Unfixed Tissue; 3. Contact Freezing of Fixed Tissue; 4. High-Pressure Freezing; 5. Freeze-Substitution in Methanol/Uranyl Acetate; 6. Freeze-Substitution in Osmium Tetroxide Acetone; 7. Progressive Lowering of Temperature Embedding in Lowicryl; CHAPTER 7. SUPPORT FILMS; 1. Surface Topography; 2. Stability of Film or Section; 3. Holey Films; 4. Thick and Thin Support Films; 5. Folds in Support Film; 6. Defects in Formvar Films; 7. Common Contaminants; 8. Volatile Contamination; CHAPTER 8.

ULTRAMICROTOMY

1. Correlation of Light and Electron Microscopy

Sommario/riassunto

This comprehensive reference illustrates optimal preparation methods in biological electron microscopy compared with common methodological problems. Not only will the basic methodologies of transmission electron microscopy like fixation, microtomy, and microscopy be presented, but the authors also endeavor to illustrate more specialized techniques such as negative staining, autoradiography, cytochemistry, immunoelectron microscopy, and computer-assisted image analysis. Key Features* Authored by the key leaders in the biological electron microscopy field* Illustrates both optimal
