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Chapter 11. Hydrogen Peroxide as a Diffusible Messenger: Evidence from Voltammetric Studies of Dopamine Release in Brain SlicesChapter 12. In Vivo Voltammetry with Telemetry; Chapter 13. Oxidative Stress at the Single Cell Level; Chapter 14. Electrochemistry at the Cell Membrane/Solution Interface; Chapter 15. The Patch Amperometry Technique: Design of a Method to Study Exocytosis of Single Vesicles; Chapter 16. Amperometric Detection of Dopamine Exocytosis from Synaptic Terminals; Chapter 17. Scanning Electrochemical Microscopy as a Tool in Neuroscience

Chapter 18. Principles, Development and Applications of Self-Referencing Electrochemical Microelectrodes to the Determination of Fluxes at Cell MembranesChapter 19. Second-by-Second Measures of L-Glutamate and Other Neurotransmitters Using Enzyme-Based Microelectrode Arrays; Chapter 20. Telemetry for Biosensor Systems; Chapter 21. The Principles, Development and Application of Microelectrodes for the In Vivo Determination of Nitric Oxide; Chapter 22. In Vivo Fast-Scan Cyclic Voltammetry of Dopamine near Microdialysis Probes; Index; Back cover

Sommario/riassunto

Since the first implant of a carbon microelectrode in a rat 35 years ago, there have been substantial advances in the sensitivity, selectivity and temporal resolution of electrochemical techniques. Today, these methods provide neurochemical information that is not accessible by other means. The growing recognition of the versatility of electrochemical techniques indicates a need for a greater understanding of the scientific foundation and use of these powerful tools.Electrochemical Methods for Neuroscience provides an updated summary of the current, albeit evolving, state of the art an