

COMPENDIUM OF IN VIVO MONITORING IN REAL-TIME MOLECULAR NEUROSCIENCE

Volume 1 of this series focused mainly on small molecules which are intrinsically electroactive. Volume 2 continues to provide current approaches to real time measurements of essential species in the central nervous system. It describes microdialysis, a sampling technique, which facilitates the removal of small volumes of solution containing the analyte(s) of interest which can be subsequently separated by chromatography and analyzed by a range of techniques. These include electrochemistry, UV-Vis spectroscopy, fluorescence and mass spectrometry. This approach affords the opportunity to measure a range of targets in real-time thus providing access to pharmacokinetic/pharmacodynamics measurements affording the possibility of measuring the disappearance of a drug after administration and the subsequent appearance of metabolites. Microdialysis further affords the ability to sample peptides and proteins of neurobiological interest.

Consistent with the goals of Volume 1, Volume 2 seeks to provide for scientists in the field of neurobiology a base of bioanalytical techniques that may not be familiar to them. Specific examples are provided and the fundamental basis of the technique is also covered.