

Fluorescence of Proteins

Editorial overview

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Molecular biology is booming, and advances in science and technology are taking place on all fronts. Today fluorescence spectroscopy is the main technique used both in research applications and in basic science. The array-based techniques have recently been extended to the analysis of peptides and the differential profiling of proteins, and the use of fluorescence spectroscopy has spread to all scientific fields.

However, fluorescence spectroscopy has long been one of the most useful techniques to scientists for studying the structural and functional properties of biological macromolecules, such as enzymes and proteins. In fact, it is well known that proteins are capable to emit fluorescence when excited by ultraviolet light, and the protein fluores-

cence is widely used to study a variety of structural information, such as the extent of rotational freedom, the exposure of amino acid side chains to quenchers, and intramolecular distances. In addition, new software for data analysis and new fluorescence probes with long lifetime are available to protein scientists, and now it is also possible to deeply characterize the structure and the dynamics of oligomeric proteins.

In this issue of the *Journal of Fluorescence*, we have assembled articles that give an overview of the current state of the application of the fluorescence spectroscopy in biochemistry and, in particular, protein biochemistry.

In closing, I would like to thank the authors for their cooperation and diligence in summarizing their fluorescence studies, which advance our understanding of protein fluorescence as a tool in biochemistry. Finally, I would like to thank the Editor of the *Journal of Fluorescence*, Dr Chris Geddes, for his valuable assistance in the preparation of this special issue.

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