

PREFACE

The field of nitric oxide biology has expanded considerably over the past decade with a growing appreciation of its many roles in a variety of cell and organ systems. Nitric oxide was first discovered in the cardiovascular system, and the importance of this discovery led to the award of the 1998 Nobel Prize in Physiology or Medicine to Robert Furchgott, Louis Ignarro, and Fred Murad, well-known cardiovascular investigators. With this history, it should come as no surprise that our understanding of the role of nitric oxide in biology and pathobiology is, perhaps, best developed as it relates to cardiovascular biology and disease. For this reason, we felt it would be both timely and relevant to review in detail the role of nitric oxide in cardiovascular biomedicine. To this end, we assembled a group of contributing authors with expertise in areas that include the chemistry of nitric oxide, the biochemistry of its synthesis, the molecular biology of nitric oxide synthases, the pharmacology of nitrovasodilators, and the role of nitric oxide in vascular diseases.

With the recent expansion of the field in directions that range from the development of novel nitric oxide donors for the treatment of myocardial ischemia and thrombosis to the development of gene therapy approaches for the restoration of endothelial function in atherosclerosis, the application of nitric oxide biology to investigative and clinical arenas in cardiovascular medicine is, indeed, rapidly evolving. This comprehensive overview should prove useful for basic and clinical investigators alike, as well as practicing clinicians in the fields of cardiology, hematology, and vascular medicine. With a balanced presentation of basic and clinically relevant subject matter, this text will provide a compendium of information that may guide the reader through the foundations of the most recent developments in this rich and exciting field.

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