



International Symposium 'Nitric Oxide: a Janus Molecule'

Rome, June 13-14, 2003

Scientific Committee

P. Ascenzi (I), A. Azzi (CH), M. Brunori (I), B. Freeman (USA), G. Kroemer (F), P.L. Luisi (I), H. Suzuki (I), J.A. Tainer (USA)

Invited speakers

J. Beckman (USA), M. Bolognesi (I), J. Bonaventura (USA), P. Brookes (USA), C. Cooper (UK), B.R. Crane (USA), F. Cutruzzola (I), M. Delledonne (I), B. Demple (USA), B. Freeman (USA), E. Garcin (USA), C. Giulivi (USA), M. Gladwin (USA), W.H. Koppenol (CH), G. Kroemer (F), W.R. Montfort (USA), G. Rotilio (I), P. Sarti (I), J.A. Tainer (USA), A. Wallace (UK), M. Wilson (UK)

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On the occurrence of the conferment of the honorary degree ("Laurea Honoris Causa") in Biology to Prof. Salvador Moncada, the Department of Biology of the University 'Roma Tre' is organizing the International Symposium "Nitric Oxide: A Janus Molecule" which will be held on June 13-14, 2003.

Nitric oxide (NO), a gas known in the past only as an atmospheric pollutant, is now considered as one of the main molecules involved in cell signaling processes of both physiological and pathological relevance. In human cells, NO is produced by the conversion of arginine to citrulline, catalyzed by nitric oxide synthase (NOS). In mammals at least three different NOS isoforms have been identified. Among these, the Ca⁺⁺ dependent neuronal and endothelial isoforms are constantly expressed by the competent cells and for this reason they are defined constitutive isoforms. The third isoform, known as inducible, is Ca⁺⁺ independent and is expressed at high levels by specific cell types following inflammatory or immunological stimuli. The NO produced at low concentration by the NOS constitutive isoforms is involved in several physiological mechanisms, such as neurotransmission and synaptic plasticity. Moreover NO is active on smooth muscle cells by controlling blood vessels dimensions and platelet aggregation. On the contrary, the NO produced massively by inducible NOS has cytotoxic activity and is involved in defense mechanisms such as immune response. In addition, NO may be involved in the pathogenesis of septic shock, brain stroke and neurodegeneration. Recent studies demonstrated that NO plays an essential role not only in vertebrates but also in invertebrates, including primitive organisms such as coelenterata, in plants, in protozoa and in prokaryotes.

The Symposium will cover molecular, cellular and organismic aspects of NO, through the participation of some of the major researchers of the field

The proceedings will be published in a special issue of IUBMB Life.