

Satellite on neurobiology

General introduction

The first International Amino Acids Congress took place in Vienna in 1989, organised by Prof. G. Lubec (Dept. of Paediatrics, University of Vienna, Austria). This year, 1997, we celebrated the fifth of a series of biennial congresses. Indeed, for the first time the conference takes place, not in Vienna, but in Chalkidiki, Greece, organised by Prof. M. Liakopoulou-Kyriakides (Dept. of Chemical Engineering, Aristotle University of Thessaloniki, Thessaloniki). Although neurobiological contributions were present in all previous meetings, in view of the increasing interest in the role of amino acids as neuroactive substances, many of us realised the need for a *Satellite on Neurobiology*, with the aim of concentrating on the rapid developments in this field.

We also organised a Satellite on Neurobiology in Chalkidiki, comprising of several symposia, where several important issues were discussed. These included the role of glutamate in the modulation of motor behaviour, under normal and pathological conditions, as well as the potential neurotoxicity of several amino acids, directly related to the so-called excitotoxin family, constituted by analogues of the acidic amino acids glutamate and aspartate, or to derivatives of the aromatic amino acid family, phenylalanine and tryptophan. The modulation of the action of the excitatory amino acids was also discussed, focusing on voltage-dependent Na⁺ channels and the allosteric binding site for glycine, which is considered as a prerequisite for the activation of the NMDA receptor. The idea that voltage-dependent Na⁺ channels interact with excitatory amino acids and nitric oxide (NO) to elicit neuronal death was discussed, focusing on the activity of nitric oxide synthase (NOS) in models of thermoregulation, behaviour, pain, heat, stroke and trauma.

While presenting new vistas on direct and/or indirect interactions of different neurotransmitters and excitatory amino acids, an utmost important goal of the symposia was to find out some novel targets for drugs to be used in the treatment of neurodegenerative and psychiatric disorders.

Supported by Prof. G. Lubec (Editor-in-Chief of the journal *Amino Acids*), we decided to invite to the speakers to the Satellite on Neurobiology at the *5th International Congress on Amino Acids, Chalkidiki, Greece, August 25–29, 1997*, to submit a paper summarising their working hypothesis and results, to be published together in a special issue of *Amino Acids*. This issue presents these papers, which are organised in sections corresponding to the symposia presented at the meeting.

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