Third Joint Italian–German Purine Club Meeting: “Purinergic receptors: new frontiers for novel therapies”

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The Third Joint Italian–German Purine Club Meeting “Purinergic Receptors: New Frontiers for Novel Therapies” took place in Camerino (Italy) from 17 to 20 July, 2009.

The Purine Club was founded as a scientific association in 1990 in Milan, Italy, with the aim of gathering both basic and clinical researchers interested in the pathophysiology of ATP and adenosine, and to foster the scientific exchange between academia and industry in this specific field of research. While the Purine Club initially served as a reference point for Italian scientists, it was opened to “purine” scientists worldwide at the occasion of the purine meeting held in 1994 in Philadelphia. National Chapters of the Purine Club were established and the Club now has more than 400 members, with the Italian and German chapters making a significant contribution.

During the congress of Medicinal Chemistry and Pharmacology of Purinergic Receptors organised in September 2003 in Camerino the idea was put forward to establish joint Italian–German meetings to be held every second year alternatively in Italy and in Germany. The first meeting was set up 4 years ago in Chieti (Italy) organised by Francesco Caciagli and his expert team. The second meeting was organised 2 years later in Leipzig (Germany) by Peter Illes and co-workers. The Third Joint Italian–German Purine Club Meeting finally returned to Camerino, where the idea was originally borne.

The meeting hosted members of the Italian and German Purine Club as well as scientists working in the purinergic

field worldwide. The scientific programme covered all aspects of purinergic mechanisms connecting fundamental research with clinical applications and focussed on recent developments, including purine-related therapeutic interventions in a variety of diseases. Individual topics included purinergic signalling and regulation in nervous system, the role of purines in nerve growth, differentiation, injury and repair, P2X receptors, atherosclerosis and platelet aggregation, new insights into guanosine “pathways”, the role of purines in inflammation and immune response, and molecular modelling and medicinal chemistry.

The meeting provided an excellent opportunity to celebrate the 80th birthday of Geoffrey Burnstock from the Royal Free and University College Medical School of London and editor-in chief of this journal. Geoffrey Burnstock is the scientific founder of the field of nucleotide signalling as we understand it today. He is a recipient of highly renowned honours worldwide. At the beginning of the seventies, he coined the term “purinergic” and proposed the purinergic neurotransmission hypothesis. At that time, ATP had been well established as an energy source and regulator of many intracellular functions and the idea that such an ubiquitous molecule should be involved in cell communication appeared to be far-fetched for many scientists. Thus, Burnstock’s novel concepts were met with considerable resistance for many years. Finally, in the early 1990s, studies on receptor physiology and pharmacology and the molecular cloning of nucleotide receptors led Burnstock to establish a new nomenclature which is now generally accepted. He proposed two families of P2 receptors, the ionotropic P2X receptors (ATP-gated ion channels) and the metabotropic G-protein-coupled P2Y receptors. This framework has subsequently allowed a logical expansion of nomenclature as new receptors were identified. Currently, seven subtypes of P2X receptors and

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eight subtypes of P2Y receptors are clearly established. Geoffrey Burnstock presented an enthusiastic and inspiring opening lecture on “Purinergic signalling: some exciting new directions” placing into perspective the known and identifying novel directions of research for the future.

The closing lecture was presented by another prestigious guest, Kenneth A. Jacobson, chief of the Molecular Recognition Section (since 1993) and appointed in 2003 as the first director of the new Chemical Biology Core Facility, both at the National Institute of Diabetes, Digestive, and Kidney Diseases, of NIH in Bethesda. Kenneth Jacobson was

recently inducted into the American Chemical Society Division of Medicinal Chemistry Hall of Fame. This honour is awarded to scientists whose research had, directly or indirectly, made an outstanding impact on medicinal chemistry. Ken’s presentation entitled “New frontiers for ligands of adenosine and P2Y receptors” provided an impressive overview of the recent technical approaches of his lab in developing novel ligands of purinergic receptors.

This issue of Purinergic Signalling presents all abstracts selected by the scientific committee of the meeting for oral or poster communications.