

Recent Advances in Histamine Receptor H₄R Research

BMBS



Participating countries: AT, CH, DE, DK, ES, FI, FR, GR, HU, IE, IL, IT, LT, NL, PL, SE, SI, SK, UK
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Workshop 'Histamine 4 receptor and immune regulation'

29 March - 1 April 2010

Davos Congress Centre

Promenade 92, 7270 Davos Platz, Davos, Switzerland

SCIENTIFIC REPORT

This workshop was held during the World Immune Regulation Meeting (WIRM)-IV in Davos (CH). WIRM-IV had 800 attendees and a scientific programme over 4 days which included 12 plenary sessions and 9 workshops. The COST workshop was held on the 2nd day of the meeting in the evening session (30th March 2010). The workshop had three speakers and was chaired by Dr. LIAM O'MAHONY (CH) and Dr. KALLIOPI KOSTELIDOU (BE) and attended by more than 80 participants. Dr. Kostelidou opened the meeting by providing background information on the COST action and by inviting interested delegates to join in the action.

The first presentation entitled "*Immunopharmacology of the Histamine H₄ Receptor*" was given by Prof KATERINA TILIGADA (GR). Prof Tiligada presented the history of H₄R discovery and the current knowledge around H₄R structure and pharmacology. In addition, Prof Tiligada presented exciting data on the potential for H₄R to be a novel target for the pharmacological modulation of histamine mediated immunological responses and its potential for therapeutic exploitation in a wide range of inflammatory disorders including allergy, asthma, chronic pruritus, arthritis, autoimmune diseases and cancer.

Next, Dr. WOLFGANG BAEUMER (DE) presented his H₄R work in a talk entitled "*The Histamine H₄ Receptor as a Target for Allergic Inflammatory Skin Diseases*". Dr Baeumer presented data on the effects of the H₄R antagonist JNJ7777120 in models of allergic contact dermatitis. While the H₄R antagonist did not reduce the acute hapten-induced swelling, H₄R antagonism significantly reduced scratching. Dr. Baeumer concluded that the H₄R may be less involved in acute allergic inflammation but more important in chronic allergic skin diseases.

The final talk of the session was presented by SASKIA NIJMEIJER (NL), an Early Stage Researcher, on her work from her PhD project entitled "*Histamine-Chemokine Interactions: to Interact or Not to Interact, That's the Q*". Ms Nijmeijer presented on the interactions between G protein-coupled receptors (GPCRs) which include the H₄R and chemokine receptors. In order to examine receptor interactions, she utilized a novel approach whereby biomolecular luminescence/fluorescence complementation and resonance energy transfer were combined. Importantly, H₄R/chemokine receptor complexes were visualized and the biologic relevance of these complexes is now being determined.

Overall this was a very successful and stimulating workshop. At the end of the meeting, workshop delegates were again invited to join the action.

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