



NSI Meeting Announcement

Date: Friday, February 9th , 12:15 – 13:00

Venue: Seminar room A3.3067, Rikshospitalet

Guest lecture

by

Dr Robert Nibbs

Division of Immunology, Infection and Inflammation,
Glasgow Biomedical Research Centre, University of Glasgow, UK

“Dissecting the function of the atypical chemokine receptors D6 and CCX-CKR”

Abstract

Chemokines play fundamental roles in controlling the migration and activity of leukocytes to ensure the effective co-ordination of immune and inflammatory responses. Leukocytes respond to these molecules using specific heptahelical G-protein coupled chemokine receptors. Surprisingly, several high affinity chemokine receptors exist that appear unable to couple to signalling pathways used by typical leukocytic chemokine receptors, and, as far as we know, remain ‘silent’ after binding chemokine. This includes D6, which binds to at least 10 pro-inflammatory CC chemokines, and CCX-CKR, a receptor for homeostatic chemokines CCL19, 21 and 25. Notably, all these chemokines are able to direct leukocyte migration through other receptors: CCR1-5 (for D6 ligands) and CCR7 or 9 (for CCX-CKR ligands). Despite their apparent ‘silence’, our studies suggest that these atypical receptors are far from inert, and that rather than responding to chemokines they use unique molecular properties to mediate effective chemokine sequestration. This specialisation appears to provide a critical level of control over chemokine abundance and distribution which directly impacts on chemokine-driven leukocyte responses. This is evident in the skin of D6 null mice that show a dramatic exaggeration in local cutaneous inflammatory responses, and markedly enhanced susceptibility to the development of tumors. These results, and our progress understanding CCX-CKR function, will be presented in conjunction with our ongoing investigations into the molecular basis for chemokine sequestration by D6. Moreover, additional possible roles for atypical chemokine receptors will be discussed in light of new phenotypes emerging from our analyses of D6 null mice

Refreshments will be served from 12:00

Welcome all!



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