

THE MIDWINTER CONFERENCE OF IMMUNOLOGISTS
POSTER ABSTRACT - 2005

Name: Maureen McGargill E-mail: mcgargil@biomail.ucsd.edu
Use same name on subject line of e-mail when transmitting abstract; not "Asilomar abstract."

In the box provided below, briefly summarize the theme of your abstract. **By Friday, December 17, 2004**, send an electronic copy and a hard copy with this signed form to Dr. Carl F. Ware, Division Molecular Immunology, La Jolla Institute for Allergy and Immunology, 10355 Science Center Drive, San Diego, CA 92121.

E-mail: carl_ware@liai.org.

All abstracts are accepted for poster presentation. Receipt of your abstract **will not** be confirmed.
(Poster size: 4'w x 4'h, maximum)

Do you approve that this abstract appears on the MCI web page? YES () NO ()

E-mail your abstract as requested above.

Send this form with hard copy of abstract. Sign: _____ Date: _____

A deficiency in Drak2 results in a lymphocyte hypersensitivity, and an unexpected resistance to autoimmunity

Maureen A. McGargill(1), Ben G. Wen(2), Craig M. Walsh(3), and Stephen M. Hedrick(1)

(1)Division of Biology, University of California, San Diego, La Jolla, CA 92093-0687;

(2)Department of Pharmacology, Genomics Institute of the Novartis Research Foundation, San Diego, CA 92121. (3)Department of Molecular Biology and Biochemistry University of California, Irvine, Irvine, CA 92697-3900

DRAK2 is a member of the death-associated protein (DAP)-like family of serine/threonine kinases. Members of this family induce kinase-dependent apoptosis in various cell types. DRAK2, in particular, is specifically expressed in T cells and B cells. To determine whether DRAK2 regulates lymphocyte apoptosis, we produced Drak2-deficient mice. Contrary to our expectations, Drak2-deficient T cells did not demonstrate any defects in apoptosis or negative selection; however, T cells from Drak2-deficient mice exhibited enhanced sensitivity to T cell receptor-mediated stimulation with a reduced requirement for co-stimulation. These results provide evidence that DRAK2 raises the threshold for T cell activation by negatively regulating signals through the TCR. In contrast to other models of T cell hypersensitivity, Drak2-deficient mice were remarkably resistant to experimental autoimmune encephalomyelitis. These results expose a new pathway regulating T cell activation, and highlight the intricacies of induced autoimmune disease.