



#### Conditions Treated:

#### Research Areas:

- *Basic Immunology*

#### Programs & Services:

- *Department of Biomedical Research*

#### Research Interests

We study T cells. T cells are amongst the cells which recognize that an infection is occurring in the body. They accomplish this in an unexpected way, by reacting with fragments of the infection bound to special proteins of the body, the MHC proteins. We are trying to find out how T cells learn to react in this way. We are also interested in the ways in which T cells are prevented from attacking MHC proteins bound to fragments of their own host. In most people such attack is efficiently avoided. However, in some individuals T cells do react in this way, and this event causes autoimmune diseases such as rheumatoid arthritis and juvenile diabetes. On the other side of the coin, the vaccines work by stimulating the ability of T cells to attack invaders. We study how vaccines accomplish this, with the hope that this understanding will help us design better vaccines.

#### Education

1967 Cambridge University, England, BA, MA

1970 Cambridge University, England, PhD

#### Fellowship

1971 - University of California (San Diego, CA), Postdoctoral fellowship with Dr. Richard Dutton  
1973

#### Affiliations with the University of Colorado Denver

Distinguished Professor, University of Colorado Denver

Professor in the Department of Immunology & Microbiology and the Depts. of Biochemistry and Molecular Biology and Medicine, University of Colorado Denver

#### Professional Memberships

British Society of Immunology

American Association of Immunologists

The Royal Society

The National Academy of Sciences USA

American Academy of Arts and Sciences

## Awards & Recognition

2015: National Women's Hall of Fame  
2015: Wolf Prize in Medicine, Wolf Foundation  
2004: National Jewish Health Abraham J. Kauvar Presidential Award  
2004: University of Colorado Health Sciences Center, School of Medicine, Mentoring Award  
2004: L'Oreal UNESCO for Women in Science Award  
2003: Faculty Ambassador Award, National Jewish Health  
2000: Lifetime Achievement Award, American Association of Immunologists  
2001: Irvington Institute Scientific Leadership Award in Immunology  
1999: Interscience Conference on Antimicrobial Agents and Chemotherapy Award  
1999: University of Chicago, Howard Taylor Ricketts Prize  
1998: The Rabbi Shai Schacknai Memorial Prize  
1996: Honorary Doctorate of Sciences, Macalester College  
1995: Dickson Prize in Medicine, University of Pittsburgh  
1995: Behring-Heidelberger Lecture Award  
1995: FASEB Excellence in Science Award  
1995: The Louisa Gross Horwitz Prize-Columbia University  
1993: The Paul Ehrlich and Ludwig Darmstädter Prize, Germany  
1993: Cancer Research Institute's 1993 William B. Coley Award for Distinguished Research in Fundamental Immunology  
1992: The Ernst W. Bertner Memorial Award, MD Anderson Cancer Center  
1991: Honorary Doctorate of Sciences, University of Rochester

## Publications

Scott-Browne, J.P., White, J., Kappler, J.W., Gapin, L. and Marrack, P. Germline-encoded amino acids in the alpha beta T cell receptor control thymic selection. *Nature* in press, 2009.

Desbien, A., Kappler, J. and Marrack, P. The Epstein Barr virus Bcl-2 homolog, BHRF1, blocks apoptosis by binding to a limited amount of Bim. *Proc. Natl. Acad. Sci. USA*, in press, 2009. PMC 2657086.

Marrack, P., McKee, A.S. and Munks, M.W. Towards an understanding of the adjuvant action of aluminium. *Nature Reviews Immunology* 9;287-293, 2009.

McKee, A.S., MacLeod, M., White, J., Crawford, F., Kappler, J.W. and Marrack, P. Gr1/IL-4 producing innate cells are induced in response to TH2 stimuli and suppress TH1-dependent antibody responses. *Int. Immunol.* 20:659-669, 2008. 367.

MacLeod, M., McKee, A., Crawford, F., White, J., Kappler, J. and Marrack, P. CD4 memory T cells divide poorly in response to antigen because of their cytokine profile. *Proc. Natl. Acad. Sci. USA* 105:14521-6. 2008. PMID: PMC2533680

## Doctor's Contact Information

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## Locations

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