

Ashley J. Pratt



Current Position: Graduate student in the Department of Molecular Biology at The Scripps Research Institute

Education: B.A. in Biochemistry and Molecular, Cellular and Developmental Biology (2006) from University of Colorado, Boulder

Non-scientific Interests: Cooking, guitar, singing, yoga, knitting, biking, snowboarding

My interests in imaging and characterizing dynamic cellular processes developed as an undergraduate in the laboratory of Amy Palmer at the University of Colorado, where I used fluorescent sensors to study calcium homeostasis in healthy and diseased primary cells. My interest in the therapeutic potential of gene silencing led me to the laboratory of Ian MacRae at The Scripps Research Institute where I am studying the mechanisms of RNA interference. My current research seeks to understand how the Sid-1 channel transports RNA into the cell to participate in gene silencing.

Ian J. MacRae



Current Position: Assistant Professor in the Department of Molecular Biology at The Scripps Research Institute

Education: Ph.D. in Biochemistry and Molecular Biology (2002) from University of California, Davis

Non-scientific Interests: Family, friends, laughing at jokes, listening to music and sipping a delicious beverage

I first became interested in studying enzyme mechanism and structure in the laboratories of Irwin Segel and Andy Fisher as a graduate student at University of California at Davis. During my second year of graduate school, Craig Mello and Andrew Fire published the first description of what was then a mysterious process of gene silencing that they termed RNA interference (RNAi). Like many others, I was immediately struck by their observations. As an enzymologist, I realized that there must be a collection of fascinating undiscovered molecular machines carrying out this process. As a postdoc, I decided to investigate the structure and mechanism of the enzyme Dicer (which at the time was the only enzyme known to function in the RNAi pathway) with Jennifer Doudna at UC Berkeley. Since that time, many additional enzymes and molecular machines that function in RNAi have been identified. My laboratory at Scripps works to gain mechanistic insight into these fascinating enzymes. In this minireview, we discuss mechanistic and structural aspects of the molecular machine central to all RNAi processes: the RNA-induced silencing complex (RISC).

Read Ashley Pratt and Dr. MacRae's article entitled: The RNA-induced Silencing Complex: A Versatile Gene-silencing Machine ... <http://www.jbc.org/cgi/content/full/284/27/17897>