Stephen Flowers

Current Position: Postdoctoral fellow in the Orthopaedics Department at New Jersey Medical School-University Hospital Cancer Center, UMDNJ in Newark, New Jersey

Education: Ph.D. in Molecular Biology and Genetics (2008) from Temple University in Philadelphia, Pennsylvania

Non-scientific Interests: Hiking, photography

I was interested in protein/protein interactions in regulatory complexes before starting my doctoral thesis research. During my graduate school rotations, this interest developed into questions about the biological significance of such interactions and the contributions of individual subunits to overall function. I joined the laboratory of Dr. Elizabeth Moran in 2003 to pursue my interest further. During this time, I focused my research on the comparative roles of the two central alternative ATPases of the SWI/SNF chromatin-remodeling complex, BRM and BRG1. Our model system was the differentiation of osteoblast precursors. In this study, we found an unexpected role for BRM-containing complexes in the repression of differentiation, while BRG1 contributes mainly to activation of differentiation. These findings reveal an unexpected degree of specialization of function linked to the ATPase contained within the complex and suggest novel strategies to accelerate bone regeneration.

Read Stephen Flower's article entitled: Antagonistic Roles for BRM and BRG1 SWI/SNF Complexes in Differentiation

http://www.jbc.org/cgi/content/full/284/15/10067