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Lessons from SIBS

Shweta Patel

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research narrative

Lessons from SIBS

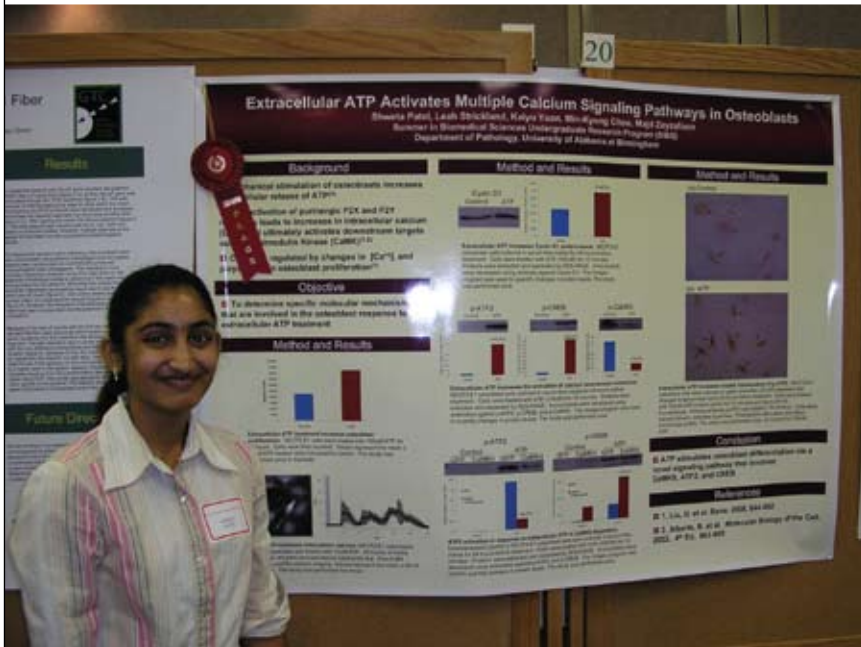
Shweta Patel

Running four 10% SDS-PAGE gels, probing nitrocellulose membranes with a secondary antibody for a Western Blot, and taking care of osteoblast cell lines were all aspects of my work this summer that greatly enhanced my multi-tasking skills. In the summer of 2008, I was accepted in the Summer in Biomedical Sciences (SIBS) Undergraduate Research Program at the University of Alabama at Birmingham. As one of seven, I was involved in cutting-edge research and participated in a series of seminars.

Working in Dr. Majd Zayzafoon's lab in the Department of Pathology, I learned about bone-forming osteoblast cells. Specifically, I studied the calcium signaling pathways involved in the osteoblast response to ATP. Through this lab, I refined my pipetting, learned how to make SDS gels, mastered protein assays, and nurtured osteoblast cells. I had to take care of the cells as if they were my children: splitting them, feeding them, and treating them. Besides learning useful laboratory techniques, I came to an important realization...research is 95% failure and 5% success. More importantly, I learned to appreciate that the ounce of success overshadows all the failures, because the miniscule success can lead to the groundbreaking cure.

This summer was full of epiphanies for me. For one, I actually used things I learned in the classroom. For example, calculating concentrations came in handy when making buffers. Dealing with my project, I already had a basis for the signaling pathways because I had an overview of them in my Cell Biology class with Dr. Stephen Watts. Even all the countless organic chemistry lab reports provided help for my final research paper.

Because of SIBS, I gained insight into a possible PhD or MD/PhD career. Through the summer



seminars and participating in a graduate-level class, I learned more about the opportunities available in research. I have always been interested in research. The scientist in me emerged in high school when I had to do science fair projects for four

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years. Being involved in research labs at UAB since I was in high school, I already had a spark. The SIBS program fueled that spark into a blazing flame. Participating in this program has actually posed a dilemma for me: should I become a doctor or should I become a researcher. Coming into college, I was geared more towards medicine. After SIBS, actually living almost like a graduate student (without the high level of stress), I knew I could not decide between medicine and research. These two fields complement each other; I truly believe you can't have one without the other. So, my decision is made: MD/PhD is the route for me. Knowing that this road is a winding path, I am ready for the bumps, being flexible and open.

My advice to students who have an intellectual curiosity is to try research. Go into a lab and learn. In addition to learning laboratory techniques and protocols you will gain an appreciation of how scientific research is actually conducted and how questions are framed. If you like the experience your array of career choices will certainly be broadened.

The best part about doing research for me is that I am participating in biomedical research behind the scenes of medicine. I am the one contributing to the efforts to find a cure. Knowing that the data I collect can someday advance research and ultimately be applied by physicians in their medical practice gives me great satisfaction.