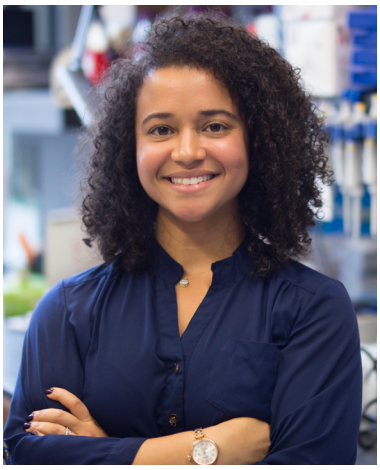
Investigating the IDH3 Enzyme and Its Role in Glioblastoma

Jasmine May, Medical Scientist Training Program



Jasmine May, a fifth-year student in the Medical Scientist Training Program (MSTP), studies the pathophysiology of glioblastoma, a grade IV brain tumor, in the laboratory of Alexander Stegh, PhD, assistant professor of Neurology in the Division of Neuro-Oncology and Medicine.

May earned her undergraduate degree in medicinal chemistry from the State University of New York at Buffalo. She hopes to someday develop better therapies for patients with glioblastoma.

Q&A

Where is your hometown?
I am from Sanborn, New York, in the Erie County area. It is about 30 minutes from Niagara Falls, New York.

What are your research interests?
My current research interests involve understanding the pathophysiology of glioblastoma, a grade IV brain tumor, which has a terrible prognosis of about 15 months after diagnosis. I am especially interested in understanding the metabolism of these tumors and what proteins are key for driving progression and disease development. I am also interested in the application of nanotechnology for the treatment of such tumors. I think there is great potential in the utilization of nanotechnology to improve current treatment regimens and imaging modalities.

What exciting projects are you working on?
My current project focuses on an enzyme in the isocitrate dehydrogenase (IDH) family, IDH3. In particular I am interested in understanding the role IDH3 and its subunits play in the progression and vascularization of glioblastoma. A lot of work has been done on the other members, IDH1 and 2, in the setting of glioblastoma and different blood cancers but very little is known about IDH3 outside of the role it plays in the citric acid cycle to produce alpha ketoglutarate. Through a better understanding of the biology of IDH3, we hope to help in the development of better therapies for glioblastoma, while also making sure those therapies do not upset the normal metabolic processes of healthy cells.

What attracted you to the MD/PhD program?
What attracted me to the program were the students and the administration. When I came to interview at Northwestern all of the students seemed truly happy to be at Northwestern. They also seemed like the type of people I would get along with, which is especially important since you spend seven to eight years in such a program. I also got the sense that the administration does all that it can to support the students during both the medical and graduate phases of their education.

What has been your best experience at Feinberg?
My best experience at Feinberg has been the MD/PhD program retreats, which happen every summer. These retreats are great for developing better relationships with my fellow students, the MD/PhD administration and the Feinberg faculty, who are invited to attend. It is a time when we get to relax and just get to know each other better without the pressures of school or research.

How would you describe the faculty at Feinberg?
Many of the faculty at Feinberg are spectacular. All understand the purpose of the school, to train and grow the next generation of researchers and physicians. In turn, the faculty are great mentors and do what they can to see the students succeed.

What do you do in your free time?
In my free time I like to relax and hang out with my husband, dog and friends. Usually this consists of walking through different Chicago neighborhoods, checking out small businesses and trying new restaurants. That last one is the only thing that gets me to run in the mornings.

What are your plans for after graduation?
My plans after graduation are to move into a neurology residency position and eventually make my way into neuro-oncology. I would like to have a clinic, see patients with brain tumors, and focus on glioblastoma. I would like for this to be at an academic institution where I would teach and mentor the next generation of physicians and physician-scientists. I also plan to mentor young high school students to increase the number of underrepresented minorities pursuing higher education and professional education. Lastly, I am intrigued by clinical research opportunities and would like to explore this research as a potential translation of the basic science work that I currently do in the lab.

Connect with Jasmine on LinkedIn.

Watch a video about her research.