

FIRST PERSON

First person – Katharina Vestre

First Person is a series of interviews with the first authors of a selection of papers published in Journal of Cell Science, helping early-career researchers promote themselves alongside their papers. Katharina Vestre is first author on ‘Rab7b regulates dendritic cell migration by linking lysosomes to the actomyosin cytoskeleton’, published in JCS. Katharina is a PhD student in the lab of Cinzia Progida at the Department of Biosciences, University of Oslo, Norway, investigating the coordination between intracellular traffic and the cytoskeleton, and how this affects processes such as cell division and migration.

How would you explain the main findings of your paper in lay terms?

We have studied the role of a protein called Rab7b in dendritic cells, which are immune cells that patrol the body to find and take up foreign substances. When these cells detect something dangerous, they migrate quickly to the nearest lymph node to initiate an immune response. In order to move, dendritic cells use fibers of actin and motor proteins called myosin. We found that Rab7b is important for coordinating this process, making sure that the myosin motors are activated at the right place and the right time. Rab7b links myosin to lysosomes, which are important signaling centers in dendritic cells. This ensures that the dendritic cells migrate efficiently, which is crucial for an effective immune response.

Were there any specific challenges associated with this project? If so, how did you overcome them?

Dendritic cells are beautiful, but not always easy to work with. Thanks to our collaborators in France, we received knockout mice that we could use for our experiments. That was very helpful, but since I had never worked with mice before, it was a steep learning curve for me. Luckily, I got a lot of support from other scientists, both from my own lab and from other groups. I am very thankful for all the help I have received along the way, and I really think this is science at its best: when people from all over the world get to work together and cooperate.

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What motivated you to pursue a career in science, and what have been the most interesting moments on the path that led you to where you are now?

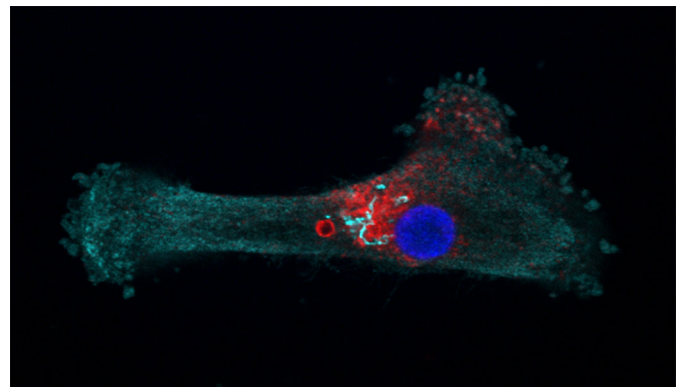
I initially studied chemistry, and I did not take any course in cell biology until the last semester of my bachelor’s degree. During that course, I fell in love with microscopy. Finally, I could see all the things I had read about in real life. I knew I wanted to learn



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and understand more about cells, and I was lucky to find both a master’s and PhD project in the group of Professor Cinzia Progida.

At the same time, I was also taking a course in science communication. I have always enjoyed reading and writing, and I discovered that I could combine this with my interest in science. I ended up writing a popular science book about human development called ‘The Making of You’, which was translated into more than 20 languages. I also made a children’s biology book called ‘The Animal Book of Records’ together with my sister,



A dendritic cell stained with antibodies to visualize the Golgi (cyan) and late endosomes/lysosomes (red). The nucleus (blue) is stained with Hoechst.

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who is an illustrator. Discovering and sharing so many interesting facts from different fields of biology was very motivating to me. I hope both my books and research articles can inspire others too.

What's next for you?

I am finishing my PhD next spring, so I have a busy autumn ahead of me. I hope that I will collect some nice data for my last paper before time runs out. It's a very exciting project, so I'm

curious to see where it will lead me! In addition, I am working on a new popular science book that I hope I'll find some time for as well.

Reference

Vestre, K., Persiconi, I., Distefano, M. B., Mensali, N., Guadagno, N. A., Bretou, M., Wälchli, S., Arnold-Schrauf, C., Bakke, O., Dalod, M. et al. (2021). Rab7b regulates dendritic cell migration by linking lysosomes to the actomyosin cytoskeleton. *J. Cell Sci.* 134, jcs259221. doi:10.1242/jcs.259221