

## FIRST PERSON

# First person – Sophia Pantasis

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. Sophia Pantasis is first author on 'Vertebrate lonesome kinase modulates the hepatocyte secretome to prevent perivascular liver fibrosis and inflammation', published in JCS. Sophia conducted the research described in this article while a PhD student in the labs of Dr Mattia R. Bordoli and Professor Sabine Werner at ETH Zurich, Switzerland. She is now a Discovery Track postdoctoral fellow in the lab of Dr Valerie Salazar at Novartis, Basel, Switzerland, investigating the molecular players behind fibroproliferative diseases.

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

To date, vertebrate lonesome kinase (VLK) is the only known secreted enzyme that is able to phosphorylate tyrosines outside of the cell. For the first time, we could show that VLK is highly expressed in specific cell types of the liver. To investigate the role VLK plays in the liver, we generated hepatocyte-specific VLK knockout mice and found that they developed liver steatosis, signs of inflammation, expansion of progenitor cells and perivascular fibrosis upon aging. Additionally, the VLK knockout mice showed elevated alpha-fetoprotein (AFP) levels after chronic liver injury or aging, supporting a key role for VLK in liver homeostasis and repair. Furthermore, we could show increased proliferation and upregulated levels of AFP in an *in vitro* VLK knockout model, validating our *in vivo* findings. Our work demonstrates a key role for VLK in liver homeostasis and repair via paracrine control of liver cell function.

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

In order to study the paracrine role of VLK, we needed an appropriate *in vitro* model. However, there was no commercially available hepatocyte progenitor cell line. Therefore, it took us some time to utilize and optimize different protocols and come up with the most suitable one. In the end, it was mainly combining knowledge from the literature and trying it out!

And of course, COVID-19 made it very hard to plan experiments because of restricted access to laboratories and shared equipment. Either we had to wait a very long time for reagents to arrive or people were not available because of sickness.

### 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 have always loved solving puzzles and have been fascinated by how mechanisms work. I love it when solving a riddle then gives rise to new questions that you can pursue. I get my motivation through my curiosity, and I am pursuing this path to learn and to improve myself. A career in science is often different from how



Sophia Pantasis

you imagine in the beginning because it is full of highs and lows. Thus, I am also passionate about speaking up and trying to change things that are not optimal. I think the best moments are when you notice that you can reach your goal much more easily by exchanging ideas with others than by trying to achieve it on your own, and by being open to changing your mind.

And of course, my parents always supported me during my career decisions and motivated me to follow my interests!

**“[...] the best moments are when you notice that you can reach your goal much more easily by exchanging ideas with others [...]”**

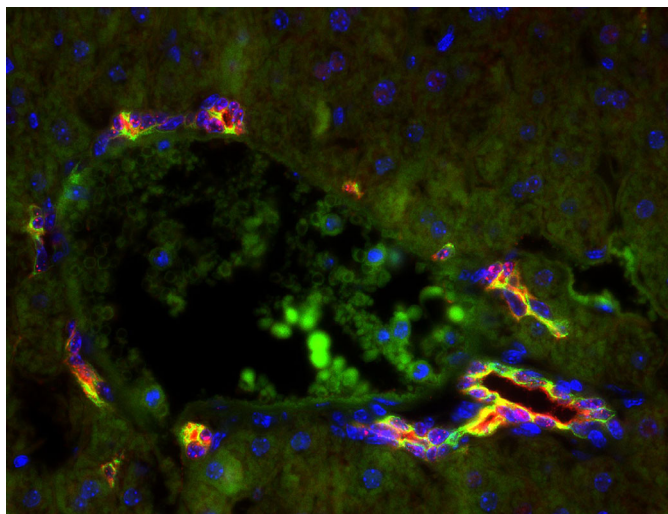
### Who are your role models in science? Why?

My role model is everyone who is asking questions, is open-minded, discusses results with others and is able to do science with integrity despite all the pressure from the field.

### Tell us something interesting about yourself that wouldn't be on your CV

I think it is very important that non-experts also understand what scientists do and how research contributes to our society. Therefore, I am firmly committed to science communication. As the president

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VLK (red) colocalization with CK19 (green) in the liver.

of a science association, I try to bring science closer to the broader public. Otherwise, I love to explore nature, food and wine in my free time! Maybe one day I will own a small vineyard with a restaurant!

#### Reference

Pantasis, S., Friemel, J., Brüttsch, S. M., Hu, Z., Krautbauer, S., Liebisch, G., Dengjel, J., Weber, A., Werner, S. and Bordoli, M. R. (2022). Vertebrate lonesome kinase modulates the hepatocyte secretome to prevent perivascular liver fibrosis and inflammation. *J. Cell Sci.* **135**, jcs.259243. doi:10.1242/jcs.259243.