Jenn Prescher gets grant to explore the intersection of metabolism and immunity

The award will give her and her collaborators $1.5 million dollars over three years to use “biological flashlights” to illuminate molecules.

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UCI Physical Sciences Communications

Prescher hopes the grant will give other researchers the tools they need to shine lights on molecules related to metabolism. (Another term she uses for those tools: "bioluminescent phasors.")

Picture Credit:
Brian Bell

You are what you eat, this we know. But the tiny ways in which what you eat change you — and how the molecular workings of your metabolism impact your immune system — are not so clear-cut. That's why Professor Jenn Prescher, a chemical biologist in the UCI Department of Chemistry, along with her UCI colleague, Professor Michelle Digman of the Samueli School of Engineering, applied for and won an award from The Paul G. Allen Frontiers Group — a division of the non-profit, bioscience research-focused Allen Institute — to track molecules related to immunometabolism in live animals.

"This project will develop new tools for examining how metabolism impacts immune function," said Prescher. "Many of the key molecules are difficult to 'see' in live cells and organisms — we're generating new platforms to trace such molecules over time and track their quantities."

Prescher described the new platforms as "biological flashlights," which, with the aid of the $1.5 million from the award that she and Digman will receive over the next three years, she hopes researchers will one day be able to use to illuminate the tiny details of our metabolic processes that, until now, were hidden. "We hope to gain new insights into how immune cells respond to external cues," Prescher said. "Such information could potentially reveal how to better leverage the body's natural defense system to treat disease."

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