Dr. Sunyer found the very cellular structures that medical science has used to define B cells in humans to be present in fish B cells, which is why they are able to label them as B cells in the first place. Funding for this research was provided by the National Science Foundation and United States Department of Agriculture.

Friend or Foe? How the Intestine Keeps Us Safe From Microbial Invaders

How the immune system is switched on and off, or how it detects friend or foe, has baffled scientists for many years. New research from Penn Vet shows tiny intestinal epithelial cells play a central role in both turning on anti-microbial immune responses and turning off harmful responses that can cause chronic inflammation in the intestine. The researchers reported their findings in the February 25, 2007 issue of Nature.

“Our findings suggest that manipulating intestinal epithelial cell function could provide a method to improve the efficacy of oral vaccines or help treat inflammatory diseases of the intestine like inflammatory bowel disease or food allergies,” said Dr. David Artis, assistant professor of pathobiology and senior author of the study.

“The body’s intestinal immune system is continually exposed to the food we eat and harmless intestinal bacteria that help us digest that food. It is essential that immune cells do not react to food or harmless bacteria otherwise diseases like inflammatory bowel disease or food allergies can develop,” said Dr. Artis. However, following exposure to dangerous viral, bacterial or parasitic microbes, immune cells must respond and turn on the appropriate immune response to kill the microbe. “Our recent studies identify intestinal epithelial cells as critical cells in making friend-or-foe decisions in the gut,” said Dr. Artis.

Other participants in the study from Penn Vet included Colby Zaph, Amy E. Troy, Betsy C. Taylor, Lisa D. Berman-Booty, Katherine J. Guild, Yurong Du, Evan J. Yost and Michael J. May.

Funding for this research was provided by the National Institutes of Health, the Irvington Institute for Immunological Research, and the Crohn’s and Colitis Foundation of America’s William Shelby Modell Family Foundation Research Award.

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Deaths

Marsha Finkelman, biomedical purchasing manager for the Ryan Veterinary Hospital, died November 27, 2006. She started working at Penn Vet in the late 1970s as an anesthesia veterinary technician. Ms. Finkelman was an organizer of the Academy of Veterinary Technician Anesthetists, and in 2003 was president of the Veterinary Technicians and Assistants Association of Pennsylvania. She was among the first to be granted official certification as a veterinary technician specialist in anesthesia.

Dr. David Kritchevsky, emeritus professor of biochemistry at the School of Veterinary Medicine, and one of the first scientists to study the link between cholesterol, cardiovascular risk and cancer, died November 20, 2006. From 1975 to 1991, Dr. Kritchevsky served as associate director of the Wistar Institute. He was president of the American Society for Nutrition in 1979.

Charles E. Wismer, Jr., an overseer of the School of Veterinary Medicine from 1984 to 1988, died September 1, 2006. He also was an agriculture trustee at Pennsylvania State University from 1981 to 1987 and a former member of the Pennsylvania Pesticide Board.