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Psoriasis lesions loaded with newly discovered immune cell

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A new study of psoriasis patients shows that a recently discovered immune cell, called Th17, appears to be a key player in the disease and occurs in far higher concentrations in their skin than occurs in skin of healthy individuals.

Rockefeller University researchers James Krueger, D. Martin Carter Professor in Clinical Investigation and head of the Laboratory of Investigative Dermatology, and Assistant Professor of Clinical Investigation Michelle Lowes compared skin and blood from healthy people to those from patients with psoriasis.

After culturing the samples and examining the T helper cells — immune cells that help coordinate immune response — Lowes and Krueger found that the healthy subjects had a very small population of Th17 cells in their blood and even fewer in their skin. But while psoriasis patients had a comparable number of Th17 cells in their bloodstream, their skin had as much as three times the number found in normal skin.

“Our working hypothesis is that we’re all walking around with some Th17 cells trafficking into the skin, but in psoriasis there are a lot more of them, and they’re pathogenic,” Lowes says. These cells are producing messenger molecules called cytokines that may be affecting a whole host of immune functions.

Earlier research on T cells and psoriasis had suggested that another kind of T cell, the Th1 cell, was a primary factor in the disease. But this study

bolsters a theory that, in fact, Th17 cells may be a primary regulator of psoriasis inflammation and could, itself, be a good target for future drug research. “We’re excited to show the presence of these cells in psoriasis lesions, and they’re present at a greater amount in the skin than in the blood,” she says. “We think they could have a very important role in pathogenesis.”

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