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AN OVERREACTION LEADS TO A BREAKTHROUGH

FOCUS: A novel target for the prevention of chronic inflammatory diseases.

White blood cells continuously circulate through our bloodstream, ready to receive a signal that there is inflammation from an infectious disease or foreign invader. As they approach the pertinent location, they are temporarily trapped by adhesion molecules. The white blood cells then leave the blood vessel and migrate into the tissue to deal with the problem.

The signals calling for the making of adhesion molecules are sent by reelin, a glycoprotein made by the liver. By regulating

the amount of adhesion molecules, reelin establishes the conditions that allow the immune cells to listen for inflammatory signals and respond appropriately.

In chronic inflammatory diseases, inflammation is caused by an overreaction of the body's autoimmune response. "In most people, the responsiveness of their immune system is balanced so that the system only responds when tissue is damaged," Dr. Herz says. "But in some people, the response is exaggerated,

and a disease condition results from immune cells attacking the body's own cells."

"We have found that if we inject an antibody to neutralize reelin in the bloodstream, the inflammation alert level is reduced and we mitigate the autoimmune response," Dr. Herz says. "We hope to develop such an antibody for therapeutic deployment in atherosclerosis, multiple sclerosis, rheumatoid arthritis, Crohn's disease, and other disease conditions."

"Our Harrington team has helped us de-risk our strategy, which is crucial for the successful commercialization of any therapy."

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