

Blocking inflammation could lead to tailored medical treatments

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By using a mouse model of inflammation researchers at the University of Calgary have discovered a new class of molecules that can inhibit the recruitment of some white blood cells to sites of inflammation in the body. A provisional patent has been filed on these molecules by Innovates Calgary.

When there is inflammation in the body, one of the primary defense mechanisms is the movement of [white blood cells](#), known as neutrophils, from the bloodstream into the infected tissue. Neutrophils are specialized cells that kill microbes associated with infection. Although neutrophils are important, their excessive recruitment into tissues can result in damage and contribute to disease.

Current anti-inflammatory drugs block all inflammation in the body. However, these newly discovered molecules target only neutrophils and may offer a more tailored course of treatment for some diseases, for example to help people suffering from [inflammatory diseases](#) such as [Inflammatory Bowel Disease](#) (IBD).

"This class of novel anti-inflammatory agents set the stage to develop drugs for conditions that have recurrent or chronic inflammation, " says Stephen Robbins, Ph.D, a researcher at the University of Calgary Faculty of Medicine, senior study author and the Director of the Southern Alberta Cancer Research Institute. "The next step in our research will be to test their effectiveness in preclinical studies of inflammatory diseases, including IBD"

"We are excited by the possibility that this research may be clinically useful to alleviate some of the damage that occurs in conditions where [chronic inflammation](#) leads to tissue injury," says Elizabeth Long PhD, who is also a University of Calgary researcher and study author.

The study was published this week in the journal *Proceedings of the National Academy of Science (PNAS)*.

Provided by University of Calgary

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