

New research adds evidence to the benefits of ginger supplements for treating autoimmune diseases

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New research has revealed a potentially important role ginger supplements can play in controlling inflammation for people living with

autoimmune diseases.

The research published in *JCI Insight* focused on studying the impact of ginger supplementation on a type of white blood cell called the neutrophil. The study was especially interested in neutrophil extracellular trap (NET) formation, also known as NETosis, and what it may mean for controlling inflammation.

The study found ginger consumption by healthy individuals makes their neutrophils more resistant to NETosis. This is important because NETs are microscopic spider web-like structures that propel inflammation and clotting, which contribute to many autoimmune diseases, including lupus, antiphospholipid syndrome and [rheumatoid arthritis](#).

"There are a lot of diseases where neutrophils are abnormally overactive. We found that ginger can help to restrain NETosis, and this is important because it is a natural [supplement](#) that may be helpful to treat inflammation and symptoms for people with several different [autoimmune diseases](#)," said senior co-author Kristen Demoruelle, MD, Ph.D., associate professor of medicine at the University of Colorado School of Medicine on the University of Colorado Anschutz Medical Campus.

In a clinical trial, the researchers found that daily intake of a ginger supplement for seven days (20 mg of gingerols/day) by healthy volunteers boosted a chemical inside the neutrophil called cAMP. These high levels of cAMP then inhibited NETosis in response to various disease-relevant stimuli.

"Our research, for the first time, provides evidence for the [biological mechanism](#) that underlies ginger's apparent anti-inflammatory properties in people," said senior co-author Jason Knight, MD, Ph.D., associate professor in the Division of Rheumatology at the University of

Michigan.

The researchers say that many people with inflammatory conditions are likely to ask their health care providers whether natural supplements could be helpful for them or they already take supplements, like ginger, to help manage symptoms. Unfortunately, the precise impact on disease is often unknown.

The researchers hope that providing more evidence about ginger's benefits, including the direct mechanism by which ginger impacts neutrophils, will encourage health care providers and patients to more strategically discuss whether taking ginger supplements as part of their treatment plan could be beneficial.

"There are not a lot of natural supplements, or [prescription medications](#) for that matter, that are known to fight overactive neutrophils. We, therefore, think ginger may have a real ability to complement treatment programs that are already underway. The goal is to be more strategic and personalized in terms of helping to relieve people's symptoms," Knight adds.

As a next step, the researchers hope to undertake clinical trials of [ginger](#) in patients with autoimmune and [inflammatory diseases](#) where neutrophils are overactive, such as lupus, rheumatoid arthritis, [antiphospholipid syndrome](#) and even COVID-19.

More information: Ginger intake suppresses neutrophil extracellular trap formation in autoimmune mice and healthy humans, *JCI Insight* (2023). [dx.doi.org/10.1172/jci.insight.172011](https://doi.org/10.1172/jci.insight.172011)

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