

Communication between nervous and immune systems detailed

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Sangeeta S. Chavan, PhD, Valentin A. Pavlov, PhD, and Kevin J. Tracey, MD, president and CEO of The Feinstein Institute for Medical Research at Northwell Health, have completed a detailed analysis of how the nervous and immune systems communicate with each other, which will help to develop novel medications and bioelectronic medicine devices to treat disease and injury. The analysis is published today in *Immunity*.

The paper is the result of long-standing collaborations between Dr. Chavan and Dr. Pavlov, each Feinstein associate professors, along with Dr. Tracey. The researchers examined various studies that outline the different biological mechanisms of neuro-immune communication. These findings clearly demonstrate that the nervous system regulates immune responses to control inflammation, the Feinstein Institute team claims.

"Neuro-immune communication is an exciting area of research that bridges different disciplines and addresses questions of great importance," said Dr. Chavan, the lead author of the paper. "Better understanding of the mechanisms by which the nervous system regulates inflammation and immunity may revolutionize how we approach treatment of autoimmune and other conditions."

This new knowledge of how the nervous system regulates the [immune system](#) has already paved the way to clinical trials of implantable bioelectronic devices to treat diseases that were historically treated with

drugs or biological agents, Feinstein Institute researchers found.

"Though more research is required, the positive results of these trials are very encouraging to researchers and medical professionals," said Dr. Pavlov, co-author on the paper.

"We are continuing to crack the code of how the nervous system and immune system interact," said Dr. Tracey, co-author on the paper. "This will help us to develop more targeted therapies, which harness the nervous system to therapeutic advantage."

Provided by Northwell Health

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