

From a molecule of natural origin, new therapeutic opportunities against hypertension

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Spirulina is celebrated as a so-called "superfood" because of its possible beneficial properties, though its mechanism of action is still under investigation. With the scientific name of *Arthrospira platensis*, spirulina is a cyanobacterium capable of photosynthesis. Sometimes classified as a "blue algae," it was supposedly used as a food by the Aztecs.

Now, a research from the Vascular Physiopathology Laboratory of the I.R.C.C.S. Neuromed in Pozzilli (Italy) shows that one of its extracts may counteract [arterial hypertension](#) by dilating [blood vessels](#).

Neuromed researchers, working in collaboration with University of Salerno, Sapienza University of Rome and Federico II University of Naples, isolated a peptide from spirulina extract capable of dilating arteries, thus leading to antihypertensive action. The study, published in the journal *Hypertension*, was conducted both in the laboratory, on isolated arteries, and on animal models.

Albino Carrizzo, first author of the paper, says, "Our research started by conducting simulated gastrointestinal digestion on the raw extract of spirulina. In other words, we reproduced what happens in the human gut after ingesting the substance. This way we have been able to isolate the peptides that would be absorbed by our body."

One of the isolated [peptides](#), SP6, has been identified for the first time. Administered to isolated [blood](#) vessels in the lab, it showed vasodilatory

action, a potentially antihypertensive effect. This led researchers to administer SP6 to hypertensive animals, resulting in an effective lowering of blood pressure.

Carmine Vecchione, professor at the University of Salerno and head of Vascular Physiopathology Laboratory at Neuromed Institute, says, "We know that hypertensive patients often have a defect in the natural processes that, by the action of nitric oxide, regulate endothelium (the inner wall of blood vessels). The peptide we isolated in spirulina extract acts positively on this mechanism. Of course, further research will be necessary, but we think that SP6 could be a natural adjuvant to common pharmacological therapies in order to improve endothelial function and, consequently, combat hypertension."

Provided by Istituto Neurologico Mediterraneo Neuromed I.R.C.C.S.

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