

Salt, inflammation and hypertension

November 14 2017, by Leigh Macmillan

Although dietary salt intake positively correlates with blood pressure, the mechanisms linking salt to hypertension are not well understood.

In the Oct. 24 *Cell Reports*, Annet Kirabo, DVM, M.Sc., Ph.D., and colleagues identify a pathway by which excess sodium contributes to inflammation and [hypertension](#).

The researchers found that sodium enters immune system [dendritic cells](#), ultimately resulting in the production of superoxide and the formation of immunogenic isolevuglandin-protein adducts. Salt-stimulated dendritic cells produce pro-inflammatory factors and activate T cells.

The investigators demonstrated that transfer of the activated T cells into mice that had not been exposed to high salt produced hypertension in response to doses of angiotensin II that normally do not increase [blood pressure](#).

The findings offer insight into how elevated sodium, such as that found in extracellular spaces in hypertensive humans, can lead to an inflammatory state and hypertension. They also suggest that therapeutics that block sodium entry into dendritic cells may have unexpected antioxidant and anti-inflammatory properties.

More information: Natalia R. Barbaro et al. Dendritic Cell Amiloride-Sensitive Channels Mediate Sodium-Induced Inflammation and Hypertension, *Cell Reports* (2017). [DOI: 10.1016/j.celrep.2017.10.002](https://doi.org/10.1016/j.celrep.2017.10.002)

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