

# SCIENTIFIC EVIDENCE

CONTRIBUTION OF EUROPEAN BLACK ELDERBERRY EXTRACT POLYSACCHARIDES TO IMMUNE FUNCTION (IN VITRO)



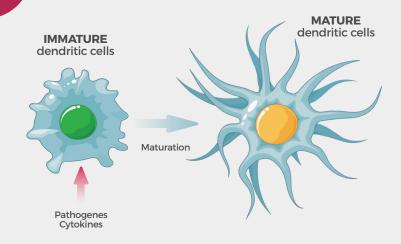




### **DENDRITIC CELLS**

## What was tested?

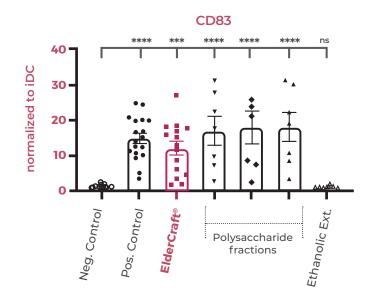
The researchers isolated polysaccharides from black elderberry extract and tested their effect on the maturation of dendritic cells and the induction of cytokines.



# Key results

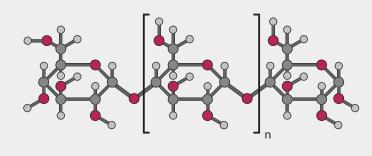
The results showed that polysaccharídes from black elderberry act as potent immunostimulants. In comparison, ethanolic extracts low in polysaccharides did not show this effect. ElderCraft® induced a potent DC-mediated T-cell stimulation and a significant induction of pro-inflammatory cytokines.

These effects seem to work in parallel to the antiviral activities of anthocyanins.



# What are polysaccharides and why are they important?

Polysaccharides are long chains of saccharides and are one of the major components of fruits of many plants. Polysaccharides fulfill a nutritional function and have gained interest as a health promoting substance. Several studies showed that polysaccharides from black elderberries have biological activities such as complement fixing activities and macrophage stimulating activity. <sup>1, 2</sup>







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- Ho, Giang Thanh Thi et al. 2015. "Structure-Activity Relationship of Immunomodulating Pectins from Elderberries." Carbohydrate Polymers 125: 241-48. http://dx.doi.org/10.1016/j.carbpol.2015.02.057.
- 2 Ho, Giang Thanh Thi, Helle Wangensteen, and Hilde Barsett. 2017. "Elderberry and Elderflower Extracts, Phenolic Compounds, and Metabolites and Their Effect on Complement, RAW 264.7 Macrophages and Dendritic Cells." International Journal of Molecular Sciences 18(3).



