

# Smoking decreases MAIT cells, implicated in the pathology of autoimmune diseases

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New research published in the May 2017 issue of the *Journal of Leukocyte Biology* provides another reason why smoking tobacco is harmful. In the report, researchers from Denmark show that smokers have reduced levels of mucosal-associated invariant T (MAIT) cells, a cell type involved in autoimmune diseases. Not only does this information shed more light on the effects of smoking, but it also reveals possible strategies to mitigate these effects.

"We believe that our study represents an important contribution to the understanding of systemic immune cell alterations in [smokers](#)," said Cecilie Ammitzbøll, M.D., Ph.D., a researcher involved in the work from the Danish Multiple Sclerosis Center in Copenhagen, Denmark. "From our findings we hope that focused research in specific cell populations might reveal pathogenic mechanisms contributing to the understanding of diseases associated with smoking."

To make their discovery, scientists investigated circulating [immune cells](#) from cohorts of healthy individuals and patients with [multiple sclerosis](#). The researchers looked for differences in smokers compared with non-smokers and found that the frequencies of certain cell types were altered. These findings were evident in both healthy individuals and patients with multiple sclerosis. Further, by using two different techniques, the scientists found that T cells from smokers were not more easily activated when they encountered foreign- and self-antigens.

"It is clear that smoking is detrimental to overall health and can

predispose to many diseases," said John Wherry, Ph.D., Deputy Editor of the *Journal of Leukocyte Biology*. "These new studies shed light on how smoking can also influence the immune system, an effect that may have implications in autoimmunity and also in other settings such as cancer and [chronic inflammatory diseases](#)."

**More information:** Cecilie Ammitzbøll et al, Smoking reduces circulating CD26CD161MAIT cells in healthy individuals and patients with multiple sclerosis, *Journal of Leukocyte Biology* (2017). [DOI: 10.1189/jlb.3A0616-267R](#)

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