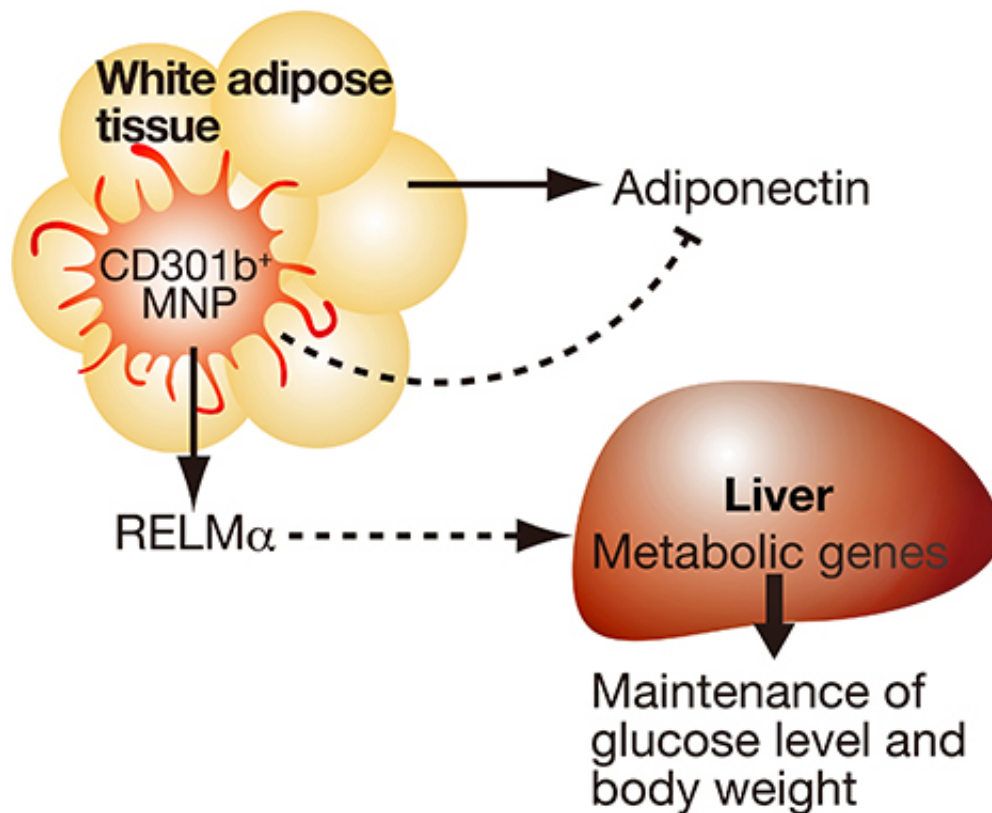


# The immune system-body weight connection

August 24 2016

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Credit: Yale University

A primary role of the immune system is fighting off harmful bacteria and viruses. However, recent studies have revealed additional roles of immune cells in other important host functions, such as controlling body weight.

A new Yale study, led by professor of immunobiology and Howard Hughes Medical Institute investigator Akiko Iwasaki, identified a population of macrophages, a type of white blood cell, that resides within the [fat tissue](#) to maintain [body weight](#).

When these macrophages are depleted from mice in experiments, they stop eating and lose weight. A key factor secreted by the macrophages to maintain body weight is a molecule called resistin-like molecule alpha (RELM-a).

In mice depleted of fat macrophages, injection of RELM-a restored their weight to control levels. These results indicate the importance of fat macrophages in maintaining our energy balance, and suggest a possible intervention for obesity, say the researchers.

**More information:** CD301b+ Mononuclear Phagocytes Maintain Positive Energy Balance through Secretion of Resistin-like Molecule Alpha. DOI: [dx.doi.org/10.1016/j.immuni.2016.08.002](https://doi.org/10.1016/j.immuni.2016.08.002)

Provided by Yale University

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