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Two populations of memory T cells

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Understanding of protective immunity comes mainly from studies of lymphocytes in the blood and lymphoid tissues, such as the spleen and lymph nodes. It is generally thought that naive CD4+T cells proliferate following an encounter with microbial antigen, then differentiate into memory cells that produce anti-microbial lymphokines. Following the encounter, the memory T cells retreat into lymphoid tissues where they remain ready to mount a response should the same antigen recur.

Marc Jenkins and colleagues of the University of Minnesota Medical School, Minneapolis, injected normal mice with several million naive CD4+T cells. They then tracked the injected cells by immunohistological analysis of thin sections through the whole bodies of recipient mice.

In 1 March Nature, Jenkins *et al* report finding that in mice exposed to antigen, the T cells proliferated, migrated to non-lymphoid tissues, such as the lungs, liver, gut and salivary glands, and then disappeared from these organs. When antigen was injected together with lipopolysaccharide, a microbial product, T-cell proliferation and migration were enhanced. Two discrete populations of memory cell survived for months. One, which resided in lymph nodes, secreted interleukin-2; the second, larger, population was found in non-lymphoid tissues and secreted the anti-microbial lymphokine interferon-? (*Nature* 2001, **410**:101-105).

This suggests that protective immunity generates memory cells that are specialized to proliferate in the secondary lymphoid tissues or to fight infection at the site of microbial entry.

References

1. University of Minnesota Medical School, [http://www.med.umn.edu/]

2. Reinhardt RL, Khoruts A, Merica R, *et al:*Visualizing the generation of memory CD4+ T cells in the whole body. *Nature* 2001, 410:101-105., [http://www.nature.com/nature/]