T cell response to new melanoma antigen linked to relapse-free survival

20 October 2008

Melanoma patients infused with a special type of tumor-fighting T cell are more likely to survive without relapse, suggests a new study by researchers in France. Their report will be published online on October 20 in the *Journal of Experimental Medicine*.

One treatment option for patients with late-stage melanoma involves removing natural cancer-fighting T cells from the tumor, expanding their numbers in culture dishes, and then re-infusing them into the patient. This strategy—called adoptive immunotherapy— causes tumor regression in about half the patients treated, some of whom survive for decades without relapse.

The French team, lead by Dr. Nathalie Labarriere, studied the infused cells from 30 stage III melanoma patients who had received adoptive immunotherapy between 1994 and 1998. Among the cells taken from a patient who has remained tumor-free for more than a decade, they found naturally-arising T cells that recognized a new protein, which they dubbed "meloe-1." Meloe-1, the group found, is highly expressed in melanoma cells but not in normal skin cells or in other types of cancer.

When they looked at the transferred cells from the other patients, they found meloe-1-specific T cells in 5 of the 9 patients who remained relapse-free, but in none of the 21 patients who relapsed. The association of meloe-1-specific T cells with relapse-free survival suggests that amplifying these T cells in culture may be one way to improve the efficacy of adoptive immunotherapy. The team has also succeeded in finding meloe-1 T cells in patients' circulating blood—a much more accessible source than tumor tissue.

Source: Rockefeller University

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