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Are You Immune to Cancer?

Scientists find a strain of super-mice that just can't get cancer.

By Jessica Ruvinsky

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Seven years ago, biochemist Zheng Cui of Wake Forest University was conducting a routine experiment, injecting test mice with a strain of cancer cells so aggressive it caused a 100 percent death rate. Oddly, one of the mice wouldn't die. Thinking he had made an error, Cui injected the mouse with a million times the lethal dose, but it still lived.



Cui was intrigued. He bred the mouse and found that 40 percent of its offspring share a remarkable resistance to many forms of cancer. When the animals' immune systems identify a cancer cell, a genetic tweak allows their bodies to launch a massive attack of white blood cells that kills the budding tumor.

Now Cui and his colleagues have found a clue that may point the way to an actual cure. When they inject white blood cells from any of these anticancer mice into their nonresistant brethren, the injected animals become resistant as

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well, fighting off induced cancer in a matter of weeks or avoiding it entirely.

Even more promising, Cui has sampled a group of human volunteers and found that 10 to 15 percent have similar super cancer-fighting white blood cells. That could explain why some people never get cancer and why others' tumors spontaneously regress. Cui proposes injecting these people's white blood cells into cancer patients to see if he can transfer their immunity.

Other, more established oncologists point out that Cui's mice are genetically uniform; humans, with their distinct DNA differences, would run a deadly risk of the donated cells attacking their host, even if they aren't rejected first. Cui counters that these issues could be overcome, as they have been for other types of transplants. "All the delivery mechanisms are in place," he says. "We truly believe that this is a viable approach."

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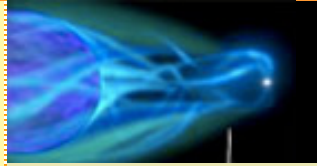
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