

BIOMEDICINE

Gene therapy tackles hair loss

It may be the stiffest challenge ever faced by the popular video-game hero Sonic the Hedgehog. Scientists suggest that a gene named after the combative character could prove a potent weapon in the battle against a fearsome foe: baldness.

During embryonic development, the gene *sonic hedgehog* participates in the formation of the brain, heart, lung, skeleton, and many other tissues and organs. It's also active in the embryo as hair follicles arise.

To test *sonic hedgehog*'s role in hair growth, investigators used a virus to slip the gene into mouse hair follicles. Since they had dyed blond each animal's naturally black fur, the scientists could monitor new hair growth by looking for all-black hairs. The added gene triggered quiescent follicles into producing normal-looking hair, Ronald G. Crystal of Cornell University's Weill Medical College in New York and his colleagues report in the Oct. 1 JOURNAL OF CLINICAL INVESTIGATION.

Since *sonic hedgehog* activity may promote certain skin cancers, it's unclear whether an approach based on the gene is a safe way to tackle hair loss, caution the scientists. Moreover, in some forms of baldness, the follicles completely degenerate. Testing the gene-therapy strategy on human skin grafted onto mice would be a reasonable follow-up experiment, says Andrzej Dlugosz of the University of Michigan in Ann Arbor, who wrote a commentary accompanying the report.

—J.T.