

Scientists grow hair on bald mice

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A Baltimore scientist has used a protein called Hairless in hair progenitor cells to restore follicle growth in genetically hairless mice.

Catherine Thompson and colleagues at Johns Hopkins University's Kennedy Krieger Institute explained the Hairless gene encodes a protein essential for hair follicle regeneration. In humans and mice with mutations in the Hairless gene, hair growth is initially normal, but once hair is shed, it does not grow back.

Thompson found the Hairless protein is normally present in cells that play a critical role during the rest and early re-growth phases of hair follicles. In those cells, Hairless protein represses the production of another protein called Wise, Thompson explained. Wise hinders a key signaling pathway promoting new hair growth.

Thus, in cells lacking Hairless, continual accumulation of Wise apparently prevents the hair cycle from switching from the rest to re-growth phase. The researchers found expressing Hairless in the appropriate progenitor cells restarted the cycle and the bald mice eventually grew thick fur.

The study appears in the early online edition of the Proceedings of the National Academy of Sciences.

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