MedicalXpress

Hirsute-s you, Sir! Could super furry animals provide clues for baldness?

August 28 2006

Scientists looking at mice may have discovered why certain people are hairier than others in what could provide clues as to the reason some men go bald prematurely.

The University of Manchester team has laid bare the molecular processes that determine which embryonic skin cells will form into hair follicles and determine the body's hair pattern.

The findings will be of interest to scientists looking at male-pattern baldness but have more direct implications for people who suffer from ectodermal dysplasia - a range of conditions where skin cells fail to develop into other tissue, including hair follicles.

“During human development, skin cells have the ability to turn into other types of cells to form hair follicles, sweat glands, teeth and nails,” said Dr Denis Headon, who led the research. “Which cells are transformed into hair follicles is determined by three proteins that are produced by our genes.

“Our research has identified how one of these proteins working outside of the cell interacts at a molecular level to determine an individual's hair pattern as the embryonic skin spatially organises itself.”

The team found that cells given the genetic command to become hair follicles will send out signals to neighbouring cells to prevent them from doing likewise, so producing a specific hair pattern. They also

demonstrated that by hyperactivating the `hair protein' in embryonic mice, young with considerably more fur than normal were produced.

“We were able to change the number of hair follicles in the embryonic mice while they were developing in the womb,” said Dr Headon, who is based in the University's Faculty of Life Sciences.

“The findings could have implications for sufferers of ectodermal dysplasia that are missing this particular protein and who are unable to develop hair follicles during embryonic development.

“The research - while not directly linked to male-pattern baldness - should be of interest to pharmaceutical companies working in this field as understanding the molecular processes at work during follicle development could provide clues as to why follicles shrink and hair growth diminishes in certain men as they get older.”

Source: The University of Manchester