

# Synthetic sandalwood found to prolong human hair growth

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A team of researchers led by Ralf Paus of the University of Manchester has found that applying sandalwood to the scalp can prolong human hair growth. In their paper published in the journal *Nature Communications*, the group describes experiments they conducted with the synthetic material and human skin samples, and what they found.

The research built on prior work by a team that had found that a receptor cell in skin called OR2AT4 was sensitive to chemicals in synthetic [sandalwood](#)—sandalwood application stimulated growth of keratinocytes. Because skin healing and [hair growth](#) are closely related, the researchers wondered if applying synthetic sandalwood might also stimulate new hair growth. To find out, they obtained skin samples from a facility that performed face lifts.

The researchers tested their idea by soaking skin samples in a synthetic sandalwood solution for six days and then observing the [skin](#) for changes to hair follicles. They report that the treated hair follicles survived longer than those that went untreated, and also produced more growth factor. The researchers verified that it was the synthetic sandalwood interacting with the receptor OR2AT4 that caused the change by blocking the receptors, and noting that doing so inhibited the change from occurring.

Hair follicles are groups of cells that surround hair roots—they have a three-stage life cycle. In the first stage, hair starts to grow due to stimulation of the root. Hair growth is caused by a process in which follicle cells are converted into hair. In the second stage, cells in the follicle stop being converted into hair. In the third stage, the hair is ejected and the follicle goes into a rest period. For normal [hair growth](#), this process is repeated over and over. The work by the researchers showed that the first stage could be made to last longer by applying synthetic sandalwood.

The researchers note that only the synthetic kind of sandalwood caused the change; the natural variety offered no such benefits. They also announced that clinical trials have begun to determine if curing baldness might be as simple as applying a synthetic sandalwood cream to the scalp—and if doing so would be safe.

**More information:** Jérémy Chéret et al. Olfactory receptor OR2AT4

regulates human hair growth, *Nature Communications* (2018). [DOI: 10.1038/s41467-018-05973-0](https://doi.org/10.1038/s41467-018-05973-0)

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