# Scientists discover natural sugar that prompts rapid hair regrowth in mice



Exciting advancements in hair regrowth research may signal a turning point for those grappling with baldness. In a recent study, scientists from the University of Sheffield and COMSATS University in Pakistan have reportedly discovered a breakthrough approach that employs a naturally occurring sugar to stimulate hair follicle regeneration. Published in the journal *Frontiers in Pharmacology*, the findings suggest a promising new avenue in the ongoing search for effective treatments for hair loss.

The study centres around 2-deoxy-D-ribose (2dDR), a sugar that not only shows potential for enhancing hair follicle activity but also seems to foster the formation of new blood vessels—an essential factor in the hair growth process. While existing hair loss treatments have notable limitations, researchers have uncovered that 2dDR can yield significant results, particularly in animal models. The initial observations were made during wound healing experiments when application of the sugar led to noticeable changes in fur density and growth rates in mice.

The impact of hair loss is profound, affecting up to 50 percent of men globally and presenting a challenge that can lead to decreased self-esteem and emotional distress. Traditional treatments such as minoxidil and finasteride have seen widespread use, but they often come loaded with a range of side effects. Minoxidil, while somewhat effective, does not work for everyone, and finasteride—despite its high success rates—has been linked to issues including mental health concerns and sexual dysfunction.

The serendipitous discovery of 2dDR’s effects prompted a more focused study, where mice were subjected to conditions mimicking testosterone-induced hair loss. Within a span of weeks, the treated mice displayed rapid hair regrowth that not only matched previous conditions but even exceeded them in terms of thick density and vascularisation—a groundbreaking finding that may soon challenge the status quo of hair restoration therapies.

University of Sheffield researchers are optimistic about the future of this treatment. Professor Muhammed Yar from COMSATS University remarked on the practicality of 2dDR, saying, “This pro-angiogenic deoxy ribose sugar is naturally occurring, inexpensive and stable, which makes it an attractive candidate for the treatment of hair loss in men.” His colleague, Sheila MacNeil, an expert in tissue engineering, also weighed in, stating that their research suggests a straightforward solution to hair loss lies in boosting follicular blood supply with this sugar.

The efficacy of this treatment observed in animals has major implications for humans. Early anecdotal evidence from clinical studies exploring the use of 2dDR has already surfaced, suggesting that a substantial percentage of participants have experienced positive results regarding hair growth. This emerging data inspires hope that the therapeutic potential of 2dDR extends beyond laboratory findings, positioning it as a viable option for those seeking effective hair restoration solutions.

While this research presents a tantalising glimpse of future treatments, it is important to note that further investigation is necessary before 2dDR can be widely applied in human cases. Nonetheless, the unanticipated discovery of a simple sugar solution for baldness illustrates how chance findings can advance medical understanding and redefine treatment possibilities. Imagine a world where reversing baldness could be as simple as a topical application of a natural sugar—a future that now appears tantalisingly close.

The implications of this research could resonate widely, spurring interest not only among individuals suffering from hair loss but also within the broader medical community. The potential for a safer, more effective approach could change the landscape of hair restoration therapies for years to come.

### Reference Map

1. Paragraphs 1-2: [[1]](https://www.goodnet.org/articles/scientists-may-have-accidentally-found-cure-for-baldness), [[2]](https://www.sheffield.ac.uk/news/cure-male-pattern-baldness-given-boost-sugar-discovery), [[3]](https://www.sciencefocus.com/the-human-body/cheap-natural-cure-for-baldness)
2. Paragraph 3: [[1]](https://www.goodnet.org/articles/scientists-may-have-accidentally-found-cure-for-baldness), [[6]](https://www.zmescience.com/science/sugar-found-in-dna-could-rival-minoxidil-in-the-fight-against-baldness-without-the-nasty-side-effects/)
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4. Paragraph 5: [[1]](https://www.goodnet.org/articles/scientists-may-have-accidentally-found-cure-for-baldness), [[2]](https://www.sheffield.ac.uk/news/cure-male-pattern-baldness-given-boost-sugar-discovery), [[4]](https://www.globenewswire.com/news-release/2025/03/26/3049474/0/en/Hair-Loss-Hero-2DDR-HEALTHCARE-Shares-Results-From-Customer-Driven-Hair-Loss-Research-Study.html)
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## Bibliography

1. <https://www.goodnet.org/articles/scientists-may-have-accidentally-found-cure-for-baldness> - Please view link - unable to able to access data
2. <https://www.sheffield.ac.uk/news/cure-male-pattern-baldness-given-boost-sugar-discovery> - Scientists at the University of Sheffield and COMSATS University Pakistan have discovered that 2-deoxy-D-ribose (2dDR), a naturally occurring sugar, can stimulate hair regrowth in mice models. Published in the journal Frontiers in Pharmacology, the study found that applying a small dose of 2dDR led to hair regrowth associated with the formation of new blood vessels. This discovery offers hope for a cure for male pattern baldness, a condition affecting up to 50% of men worldwide. The researchers suggest that 2dDR could be a simple and effective treatment for hair loss.
3. <https://www.sciencefocus.com/the-human-body/cheap-natural-cure-for-baldness> - A study published in Frontiers in Pharmacology reveals that 2-deoxy-D-ribose (2dDR), a naturally occurring sugar, can stimulate hair regrowth in mice models. The research, conducted by scientists from the University of Sheffield and COMSATS University Pakistan, found that applying 2dDR led to hair regrowth associated with the formation of new blood vessels. This discovery offers hope for a cure for male pattern baldness, a condition affecting up to 50% of men worldwide. The researchers suggest that 2dDR could be a simple and effective treatment for hair loss.
4. <https://www.globenewswire.com/news-release/2025/03/26/3049474/0/en/Hair-Loss-Hero-2DDR-HEALTHCARE-Shares-Results-From-Customer-Driven-Hair-Loss-Research-Study.html> - 2DDR HEALTHCARE has shared results from a customer-driven hair loss research study, reporting that 92% of participants experienced no new hair loss, and over 54% reported new growth within 60-120 days. The company is exploring a 9-month clinical trial in India in 2025 to better understand the efficacy of 2-deoxy-D-ribose (2dDR) in reversing hair loss. The serum developed by 2DDR HEALTHCARE is inspired by research from the University of Sheffield, which found that 2dDR can stimulate hair regrowth in mice models.
5. <https://www.earth.com/news/new-natural-cure-male-baldness-highly-effective-sugar-2-deoxy-d-ribose/> - A study published in Frontiers in Pharmacology reveals that 2-deoxy-D-ribose (2dDR), a naturally occurring sugar, can stimulate hair regrowth in mice models. The research, conducted by scientists from the University of Sheffield and COMSATS University Pakistan, found that applying 2dDR led to hair regrowth associated with the formation of new blood vessels. This discovery offers hope for a cure for male pattern baldness, a condition affecting up to 50% of men worldwide. The researchers suggest that 2dDR could be a simple and effective treatment for hair loss.
6. <https://www.zmescience.com/science/sugar-found-in-dna-could-rival-minoxidil-in-the-fight-against-baldness-without-the-nasty-side-effects/> - A study published in Frontiers in Pharmacology reveals that 2-deoxy-D-ribose (2dDR), a naturally occurring sugar, can stimulate hair regrowth in mice models. The research, conducted by scientists from the University of Sheffield and COMSATS University Pakistan, found that applying 2dDR led to hair regrowth associated with the formation of new blood vessels. This discovery offers hope for a cure for male pattern baldness, a condition affecting up to 50% of men worldwide. The researchers suggest that 2dDR could be a simple and effective treatment for hair loss.
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