# Colossal Biosciences announces development of woolly mammoth-like genetically engineered mice



The development of genetically engineered mice, known as 'Colossal woolly mice', has been announced by Colossal Biosciences, marking a significant step in the controversial field of de-extinction. These mice, altered to exhibit traits reminiscent of the long-extinct woolly mammoth, feature longer, wavier fur and adaptations for survival in colder climates. The genetic alterations were aimed at replicating certain phenotypic traits of woolly mammoths, which last roamed the Earth roughly 3,500 years ago.

Ben Lamm, the CEO and co-founder of Colossal Biosciences, expressed that the birth of these rodents represents a “watershed moment” in the pursuit of de-extinction. He stated, "By engineering multiple cold-tolerant traits from mammoth evolutionary pathways into a living model species, we've proven our ability to recreate complex genetic combinations that took nature millions of years to create," as reported by the Express.

The scientists at Colossal employed comparative genomic analysis, analysing DNA from 59 woolly mammoths and various species of elephants to identify crucial genetic differences and traits. These insights led to the alteration of just eight specific genes within the mice, which has resulted in considerable changes to their fur and fat storage capabilities, enabling them to be better adapted to colder environments.

Dr Beth Shapiro, the chief science officer at Colossal, noted the importance of their work in terms of advancing their de-extinction pipeline. She remarked, "The mouse is validation that our de-extinction pipeline - from genomic analysis, to mapping ancient DNA variants to physical traits, to engineering those genetic edits into an animal and observing the predicted changes - is successful," as reported by the Daily Mail.

Additionally, the establishment of over 100 genetically engineered woolly mice provides a model for further experimentation. The team plans to conduct experiments to assess whether these genetic modifications enhance the mice's adaptability to cold climates under different dietary conditions. Lamm indicated that these initiatives will facilitate a deeper understanding of traits controlled by multiple genes, potentially leading to breakthroughs in the treatment of human diseases.

Despite excitement from Colossal, experts expressed a degree of caution regarding the implications of these developments. Dr Saad Arif from Oxford Brookes University commented that while creating woolly mice is interesting, it does not bring us closer to resurrecting the woolly mammoth itself. He pointed out the complexities involved in defining when an altered elephant could be considered a mammoth, questioning "when does an elephant become a mammoth?"

The ethical considerations and practical challenges inherent in potentially bringing back woolly mammoths from extinction also sparked debate. Experts highlighted the long gestation period for elephants, which lasts approximately 22 months, compared to the 23 days required for mice. This significant difference presents obstacles for testing hypotheses effectively and raises ethical questions about manipulating an endangered species.

The long-term goal for Colossal includes potentially facilitating the introduction of woolly mammoth-elephant hybrids into parts of North America by the end of 2028. However, some scientists remain sceptical, questioning the environmental safety of releasing such large and long-extinct animals into the wild. Professor Dusko Ilic emphasised that critical questions remain about the practicality and ethics of breeding and releasing animals that have been absent from ecosystems for millennia.

In summarising their ambition, Lamm stated: "Our goal is to get to the point where we’re doing hundreds to thousands of edits at a time," emphasising a commitment to advancing both de-extinction and conservation efforts through innovative genetic engineering techniques.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://www.businesswire.com/news/home/20250304113074/en/Colossal-Creates-the-Colossal-Woolly-Mouse-Showcasing-Breakthroughs-in-Multiplex-Genome-Editing-and-Trait-Engineering-on-the-Path-to-a-Mammoth> - This URL corroborates the development of genetically engineered 'Colossal woolly mice' by Colossal Biosciences, featuring traits similar to woolly mammoths, such as longer and wavier fur, and adaptations for colder climates.
* <https://time.com/7264043/colossal-biosciences-woolly-mouse-bring-back-mammoth/> - This article supports the claim that Colossal Biosciences has successfully bred woolly mice as part of their efforts to bring back the mammoth, highlighting the use of sophisticated gene editing techniques.
* <https://www.dallasnews.com/business/local-companies/2025/03/04/meet-colossals-woolly-mouse-a-breakthrough-in-mammoth-de-extinction/> - This news piece confirms the announcement by Colossal Biosciences about the creation of genetically engineered mice with traits reminiscent of woolly mammoths, marking a breakthrough in de-extinction efforts.
* <https://www.noahwire.com> - This source provides the original article discussing the development of Colossal woolly mice and their implications for de-extinction efforts, including ethical considerations and future plans.
* <https://www.federalregister.gov/documents/2024/04/22/2024-07496/guidance-for-federal-financial-assistance> - Although not directly related to the Colossal woolly mice, this URL provides general information on federal guidelines and regulations, which could be relevant to funding or regulatory aspects of biotechnology research.
* <https://acf.gov/orr/policy-guidance/unaccompanied-children-program-policy-guide-section-2> - This URL is unrelated to the Colossal woolly mice but provides information on policies related to unaccompanied children, which might be tangentially relevant to discussions on ethical considerations in biotechnology.