

# Tissue Engineering

- [How were scientists able to get a human ear on a mouse?](#)
- The experiment in which a human ear was attached to a mouse's back was performed in the laboratory of Dr. Charles Vacanti at the University of Massachusetts. He was assisted by Dr Linda Griffith-Cima from MIT. The study was done at the suggestion of a plastic surgeon who was interested in developing techniques for attaching ears in children who had external ear deformities or had lost ears in accidents. It was designed to serve as a model for tissue engineering. The mouse used for the study had a defective immune system so it was unable to reject the human tissue. The scientists created a ear-like scaffold of porous, biodegradable polyester fabric and then distributed human cartilage cells throughout this form. The entire construct was then implanted onto the back of the nude mouse. The mouse nourished the ear as the cartilage cells grew to replace the fiber. The mouse remained healthy and alive throughout. While the cartilage grew in the shape of an ear, it was not a functional ear since it lacked any connection to the nervous system or internal structure of the ear.  
<http://www.madsci.org/posts/archives/2000-06/961007439.Ge.r.html>

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<http://www.youtube.com/watch?v=0taE4F0Wkhg>

CBS report on Tissue Engineering

<http://www.youtube.com/watch?v=uIM0sSTwU9Q>

Awarded Bob Langer