

## Transforming skin cells into cartilage

## January 10 2011

In this paper, Noriyuki Tsumaki and his team at the Osaka University Graduate School of Medicine, used fibroblasts isolated from adult mouse skin, and expressed proteins used to induce pluripotency along with a factor that promotes a chondrocyte fate. The resulting cells resembled chondrocytes and produced cartilage when injected into mice. This may be an important step toward a therapy that will allow the repair of cartilage injury using a patient's own skin cells.

Hyaline cartilage, composed primarily of chondrocytes in an extensive extracellular matrix, makes up the embryonic skeleton and persists in adults at the ends of bones, where it provides shock absorption and lubrication of joints.

Hyaline cartilage injury often results in the formation of the scar tissue fibrocartilage or even new bone formation leading to growth impairment or <u>osteoarthritis</u>. However, <u>regeneration</u> of cartilage might be possible if researchers can develop a method to generate new chondrocytes.

In this paper, Noriyuki Tsumaki and his team at the Osaka University Graduate School of Medicine, used fibroblasts isolated from adult mouse skin, and expressed proteins that have previously been used to induce pluripotency along with a factor that promotes a chondrocyte fate.

This produced cells with traits that resembled chondrocytes and produced cartilage when injected into mice. The researchers believe this may be an important step toward a therapy that will allow th



e repair of cartilage injury using a patient's own skin cells.

**More information:** View this article at: www.jci.org/articles/view/4460 ... 631d5aff983c237cf1dc

## Provided by Journal of Clinical Investigation

Citation: Transforming skin cells into cartilage (2011, January 10) retrieved 25 April 2024 from <a href="https://medicalxpress.com/news/2011-01-skin-cells-cartilage.html">https://medicalxpress.com/news/2011-01-skin-cells-cartilage.html</a>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.