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Moderate deformation of cartilage micropellets in a fluidic custom-made device enhances the expression of chondrocyte markers

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Introduction

Cartilage engineering approaches are being developed for evaluating the repair of articular cartilage lesions but few of them have reached the clinics. One limitation of current approaches is the lack of mechanical stimulus. Cartilage micropellet is a well-known model of cartilage growth but no study has evaluated the impact of mechanical stimulation on their development by analyzing both their biochemical and biomechanical properties.

Objectives

We relied on the use of a **fluidic custom-made device** for biomechanical stimulation and characterization of mesenchymal stromal cells (MSCs)-derived cartilage micropellets.

Methods



Results







