



#### Novel Therapeutic Strategies for Tissue **Engineering of Bone and Cartilage Using** Second Generation Biomimetic Scaffolds

#### **Results in Brief**













### Uniting bone tissue engineering research in **Europe**

The integration of bone and cartilage tissue engineering research in Europe will help scientists in the field share resources and results towards advancing existing technologies for bone and cartilage therapies.





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Tissue engineering constitutes one of the most promising approaches of regenerative therapy for repairing damaged or diseased tissues. In the case of bone and cartilage, autologous grafts have been the most used approaches until recently. However, the development of bone and cartilage substitutes from stem cells grown on scaffolds has come to revolutionise reconstruction of tissue defects.

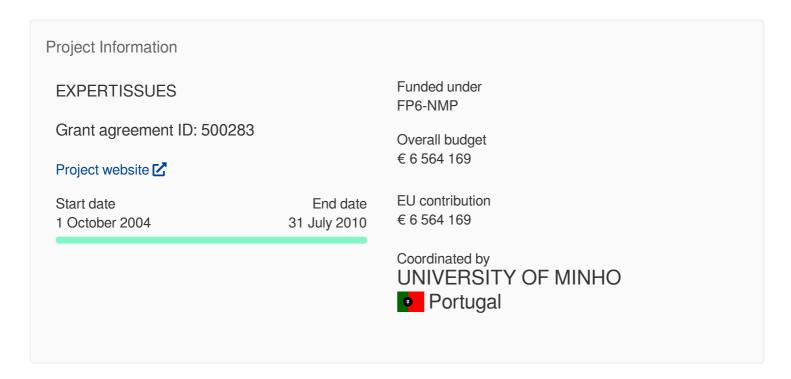
Despite extensive research on scaffold materials, growth factors and stem cell sources, relatively little success has been achieved in humans. To address the pitfalls and requirements for such a regenerative approach, scientists in the field need to be united.

The main goal of the EU-funded Expertissues project was to integrate European research on bone and cartilage engineering so that it could become competitive in the international arena.

Over 20 partners including academia and industry were coordinated under the umbrella of the Expertissues European Institute of Excellence on Tissue Engineering and Regenerative Medicine. This European economic interest grouping had its headquarters at Universidade do Minho in Portugal and branches in all member institutions.

A key objective of the network was to create a European Research Area (ERA), integrating management, research and dissemination activities on bone and cartilage tissue engineering. To this end, the consortium incorporated an international advisory board from academic partners of leading institutions in Canada, Singapore and the United States. The goal was to have their expertise in the field help advance European research in the sector.

By building on the infrastructure for European research on bone and cartilage tissue engineering technologies, the Expertissues action is expected to boost Europe's competitiveness in the field. This Network of Excellence will have a major social impact by contributing to the development of new therapeutic treatments.



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