

## The German-Danish Biobank

Currently, bone marrow and bone fragments containing valuable stem cells are discarded as waste during routine bone operations. The potential of these stem cells lies primarily in their use for regenerative therapies, such as the treatment of bone fractures.

Our aim is to harvest these stem cells with new instruments and methods and to store them in cross-border biobanks. Thereby, this valuable resource can be made available for therapeutic purposes or for research into advanced therapies.

## Achievements so far

- We developed a method to harvest bone stem cells during routine bone surgeries.
- For this purpose, we created a prototype of a new medical device and applied for a patent.
- We generated a process chain to safely transport bone material from the operating room to the laboratory for stem cell isolation.
- We stored harvested cells under different conditions and evaluated their characteristics to ensure appropriate quality for further growth or clinical application.
- Involved hospitals have been connected via a specifically developed database system to be able to share sample data respecting the EU data protection and privacy regulations.

## Upcoming Goals

- Development of a cross-border legally compliant (GMP) method for the extraction, storage and use of bone material
- Development of a GMP compliant cell product
- Foundation of a BONEBANK organisation
- Establishment of a competence atlas in the field of bone stem cells in the German-Danish border region that attracts interregional interest

## Contact

### Leadpartner

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### Project Management

DSN Connecting Knowledge, Kiel



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## Project Data

**BONEBANK – the German-Danish Biobank and Innovation Platform for Stem Cells in Bone Regeneration**

- **7 Partner Organisations**
- **3 Network Partners**
- **Duration: Sep 2015 – Aug 2020**
- **Budget: 3.9 Million Euros, thereof 2.2 Million Euros funding**

BONEBANK is supported by Interreg Deutschland-Danmark with funds from the European Regional Development Fund.



German-Danish Biobank and  
Innovation Platform for Stem  
Cells in Bone Regeneration



**Interreg**  
Deutschland - Danmark



## Future Usage of Results

### *Clinicians and hospitals*

implement the BONEBANK approach to harvest bone marrow stem cells during routine operations.

### *Public and private biobank operators*

are part of the BONEBANK value chain to store and market stem cells.

### *Public researchers*

use bone marrow stem cells for research purposes.

### *Life Science Industry (Medtech, Biotech, Pharma)*

purchase bone marrow stem cells for research and the development of therapies.

### *Politicians and the general public*

understand the potentials of bone marrow stem cells for regenerative medicine and the value of the BONEBANK network for the cross-border region.

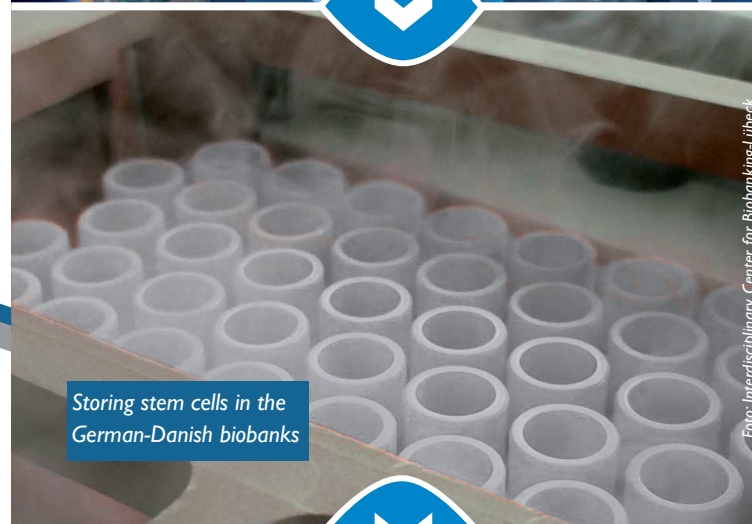
## Usage of Stem Cells

BONEBANK creates the preconditions for a diverse field of application of stem cells in the process of bone healing:

- Storage for future use by other research groups and in clinical studies of stem cell therapy
- Collecting for future personal use or for use by immediate family members
- Improving medical products and developing new treatment modalities in the German-Danish border region
- Donation for other patients



Harvesting stem cells during routine operations



Storing stem cells in the German-Danish biobanks



Using stem cells for research and therapy

## Project Partners

- Life Science Nord Management GmbH
- Næstved Hospital  
Department of Clinical Immunology
- Odense University Hospital
- soventec GmbH
- Stryker Trauma GmbH
- University Medical Center Schleswig-Holstein,  
Campus Lübeck  
Laboratory for Biomechanics and Orthopaedic-Traumatological Research, Department for Orthopaedics and Trauma Surgery
- University of Lübeck  
Interdisciplinary Center for Biobanking-Lübeck (ICB-L) & Section for Translational Surgical Oncology and Biobanking (Department of Surgery)



## Network Partners

- Health Innovation Centre of Southern Denmark
- Lübeck Chamber of Commerce and Industry
- WelfareTech

