LifeTec Group™

01 _ PRECLINICAL CRO

02 _ TECH & TRAINING

03 _ ACCELERATION

OSTEOCHONDRAL PLATFORM

ADVANCING RESEARCH AND DEVELOPMENT

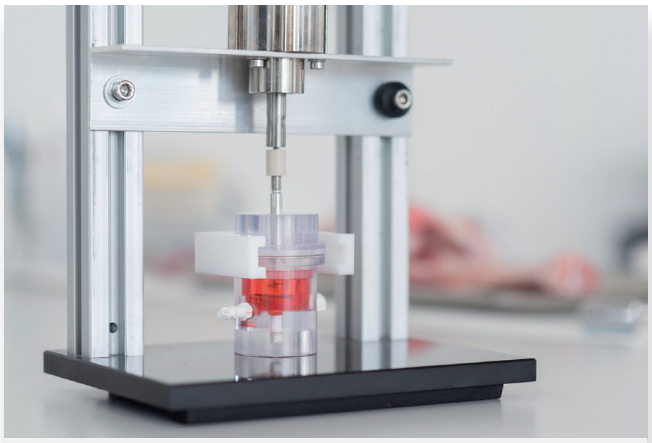
OSTEOCHONDRAL PLATFORM

for orthopaedic and pharmaceutical research, testing and screening

Testing the performance of your implant, device or therapy in a cost-efficient manner in living and functional ex-vivo cultured osteochondral biopsies. In short, this is what the Osteochondral Platform is about. It is well recognized that presence of both cartilage andbone is required for maintaining functionality and viability of each of the tissues.

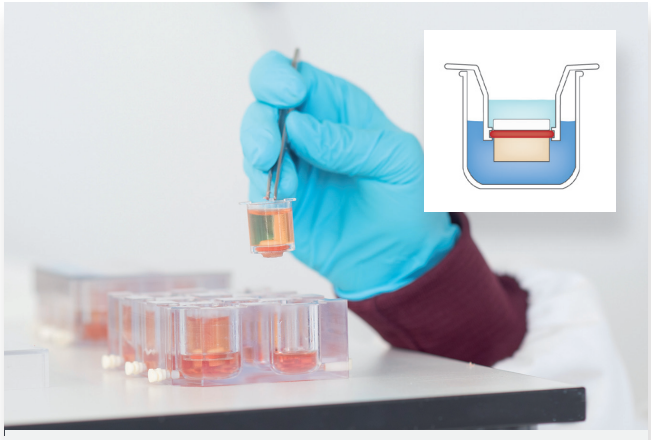
The Osteochondral Platform is the translation of recognized fundamental science into applied science: a platform that provides you exactly that lifelike ex-vivo setting for testing your product, at the same time reducing the amount of animal testing needed. The platform is suitable for testing of your biomaterials, cellular therapies, drugs and implant devices.

FEATURES & BENEFITS



Set-up for mechanical conditioning and testing of samples in a sterile manner

- The platform is well suitable for testing of your biomaterials, cellular therapies, drugs and implant devices.
- Evaluating up to 100 biopsies in parallel allowing for testing of multiple conditions for up to 12 weeks.
- Assessing samples with variable dimensions and derived from a wide array of species, such as porcine, bovine, sheep and goat.



Culture platform with separated compartments for cartilage and bone

- Biopsies can be mechanically conditioned with physiological loading parameters.
- Mechanical properties of the samples can be monitored online during culture.
- Cartilage and bone are separated, while internal communication between the tissues is still possible.
- Structural tissue properties can be monitored non-invasively by µCT imaging

LifeTec Group™

Accurate mechanical conditioning of your sample

EXAMPLES OF USE

• Evaluation of cell- and/or material-based treatments for repair of focal cartilage defects.

• Assessment of bone tissue response and ingrowth after implantation of, for example, bone grafts and bone fixation devices.

• Dose-response testing and screening of therapeutics for cartilage and/or bone repair, targeting the specific tissue of interest enabled by the separated tissue compartments.

Isolation of osteochondral biopsies from a porcine femoral condyle

OUTCOME PARAMETERS / OPTIONS FOR ANALYSES

• Quantification of biochemical composition and vitality.

• Assessment of mechanical properties.

• (Immuno) histological stainings.

• Detection and quantification of released compounds.

• Assessment of tissue integration strength.

Research Article

Ex Vivo Culture Platform for Assessment of Cartilage Repair Treatment Strategies

Andrea Schwab [1], Annick Meeuwsen [2], Franziska Ehlicke [1], Jan Hansmann [1,3], Lars Mulder [2], Anthal Smits [2], Heike Walles [1,3] and Linda Kock [2]

[1]University Hospital Wuerzburg, Department Tissue Engineering and Regenerative Medicine (TERM), Wuerzburg, Germany; [2]LifeTec Group BV, Eindhoven, The Netherlands; [3]Translational Center Wuerzburg 'Regenerative Therapies in Oncology and Musculoskeletal Disease', Wuerzburg, Germany

ALTEX
ALTERNATIVES TO ANIMAL EXPERIMENTATION

OSTEOCHONDRAL PLATFORM

For further information
please contact:

HEAD OF RESEARCH

Dr. ir. Linda Kock

l.kock@lifetecgroup.com

PRECLINICAL CRO

TECH & TRAINING

ACCELERATION

CONSULTANCY

Kennedyplein 10-11,
5611 ZS, Eindhoven,
The Netherlands.

+31 40 2989393
Info@lifetecgroup.com
www.lifetecgroup.com

Certification

LifeTec Group™