

COREMED

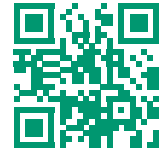
Centre for Regenerative and Precision Medicine



JOANNEUM RESEARCH Forschungsgesellschaft mbH

JOANNEUM RESEARCH develops solutions and technologies for business, industry and public authorities over a wide range of sectors and conducts applied cutting-edge research on an international level.

The company makes a significant contribution towards safeguarding the economic success of the region and assumes a key role in the transfer of technology and expertise into the economy.



Corporate Film

Our 3 Thematic Areas



Information and Production Technologies



Human Technologies and Medicine



Society and Sustainability



Owners

80,75 %

State of Styria

14,25 %

BABEG Carinthian Agency for Investment
Promotion and Public Shareholding

5 %

Wirtschaftsagentur Burgenland
GmbH

Certifications

ISO 9001

Requirements for quality management systems

ISO 14001

Environmental management systems

ISO 13485

Medical devices – Quality management systems –
Requirements for regulatory purposes

ISO 14644

Cleanrooms and associated controlled environments

ISO 17025

Accredited test laboratory ROBOTICS Evaluation Lab

GLP

Good Laboratory Practice

Numbers – Data – Facts

around **500** employees (from over 25 nations)

7 research units

6 locations

around **50** million Euro of research services per year



COOPERATION.
INNOVATION.
REGENERATION.

»The motto of regenerative medicine is “healing instead of just repairing”. COREMED was established to drive research and development in this area forwards.«

Prof. Dr Lars-Peter Kamolz, MSc
Director

COREMED

Centre for Regenerative and Precision Medicine

COREMED is a joint initiative between JOANNEUM RESEARCH and the Medical University of Graz established to drive research and development in the domain of regenerative medicine forwards, in particular in the fields of cut and wound healing, scarring and skin ageing.

COREMED works closely with the HEALTH Institute of JO-ANNEUM RESEARCH and the clinical department for plastic, aesthetic and reconstructive surgery at the Medical University of Graz.

COREMED is able to use its location in the Centre for Scientific and Technological Transfer (in German ZWT) on the MedCampus Graz to access available resources and enjoys a close cooperation regarding science and research. The site in Graz consists of a strong, local network of scientific facilities and established players in the area of life sciences: Medical University of Graz, University of Graz, Technical University of Graz, JOANNEUM RESEARCH and CBmed GmbH.

Furthermore, COREMED boasts close cooperation with national and international partners and companies. »Innovation through Cooperation«.



Areas of Focus

Within the domain of regenerative medicine, the focus of COREMED's research is currently on the organ skin and its processes of regeneration and repair.

These include:

- Physiological processes of wound healing in acute wounds (e.g. burn injuries)
- Pathological mechanisms that form the basis for the emergence of chronic wounds or hypertrophic scars
- Process of skin ageing and the associated changes



Innovation



The future
of medicine?

The focus of research and development at COREMED is the development of clinically relevant models for wound healing disorders, for example acute and chronic wounds of different pathogenic or hypertrophic scars. On the one hand, these pre-clinical models enable the characterisation of key processes occurring during the emergence of wound disorders, and on the other, they are also available for the development and test of new and existing therapies. Particular emphasis is placed on the rapid and secure transfer of research results into a clinical application. The cooperation between research and clinics is crucial for optimum results.



Our Portfolio



Visit our
laboratory in 360°

COREMED offers interdisciplinary, complete solutions in R&D services for the pharmaceutical and medical-technical industry.

As a reliable partner for projects in both fundamental and applied research, COREMED provides established, clinically relevant models for the testing of products and the characterisation of their mechanism of action.

In close cooperation with the Medical University of Graz, clinical studies in the fields of wound healing and skin ageing can also be planned, coordinated and conducted.

In these projects, COREMED can offer the classical methods of wound documentation, measurement of skin structure and also methods for the characterisation of skin blood circulation. The wound healing process can also be analysed and evaluated on both a cellular and molecular level.



Tissue Regeneration Technologies

The core topics in the research group “Tissue Regeneration Technologies” are research into wound healing and skin regeneration together with the application of new technologies for the improvement of wound healing and the treatment of wound healing disorders. In the foreground are the development and establishment of clinically relevant pre-clinical models that reflect the patient’s situation as exactly as possible.

Classical methods for the documentation and quantification of the wound healing process are available to COREMED for the analysis of the models, for example:

- Wound documentation (3D photography incl. planimetry and volumetry)
- Measurement of skin characteristics (Cutometer, Reviscometer, Tewameter)
- Characterisation of the skin blood circulation (laser speckle contrast imaging, hyper-spectral camera, thermal image camera)

The wound healing process or therapeutic success can also be analysed and evaluated on a cellular (histological, immune-histological and FACS) as well as molecular level (gene expression studies, protein analysis, metabolomics).

The application and further development of clinically relevant technologies, such as innovative imaging procedures, aim at ensuring the best possible transferability of the results.

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Pre-clinical in-vitro

- Wound Healing
- Inflammation

Pre-clinical in-vivo

- Wound Healing
- Scarring
- Inflammation
- Skin ageing

Pre-clinical ex-vivo

- Wound Healing
- Inflammation

Clinical

- Wound Healing
- Scarring
- Inflammation
- Skin ageing





Reference Projects

- Development of clinical models for the development and testing of new therapies in the field of wound healing, scarring and skin ageing
- Reduction of burn wound progression after burn injuries using special wound dressings: Testing of the local “cooling effect” and the associated tissue preservation in a human ex-vivo model
- Further development of an existing wound dressing towards “indicator dressing”: In cooperation with the MATERIALS Institute at JOANNEUM RESEARCH, significantly reduced in-vitro bacterial growth could be observed.
- Charging of wound dressings with anti-infective substances under clinical conditions: The germ-reducing properties of wound dressings loaded with anti-infective liquids could be observed in-vitro via significantly reduced bacterial growth.
- Testing of intradermally applied substances regarding tissue compatibility in a human ex-vivo model
- Testing of special “cooling clothing” under standardised heat load in an operation room



Reference projects

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