

Implantable biomaterial and medical device testing services

for cardiovascular, dental and orthopaedic implants, osteoinductive materials, tissue engineering products



Privileged access to
specialist equipment



Multi-disciplinary
team of experts



Fully tailored
studies

As key partners of the Laboratory of Physiopathology and Bone Resorption and animal testing platforms at the Nantes University Hospital, Nantes Veterinary School and CIRE (French Institute for Surgery, Imaging and Research on Animals), this means you have **privileged access to medical imaging systems** such as **Skyscan 1076 in-vivo micro CT**, **Siemens MRI 3T Magnetom Verio®**, **Siemens Somatom® CT Scanner** and **Siemens Arcadis Avantic® Mobile Imaging System** which are fully dedicated to animals.

You'll receive expert advice from our team of **veterinary, dental, plastic, vascular and orthopaedic surgeons, anaesthetists and microbiologists**. We also include internationally renowned **researchers** as part of our multidisciplinary team offering you expert writing services for scientific publication in peer reviewed journals which are essential for marketing your products.

We offer **functional implantation studies** (ISO 10993-6) and **implant surface analysis** such as scanning electron microscopy according to Good Laboratory Practice standards in **rodents and rabbits** as well as larger animals including **goats, sheep and pigs** for solid implants (metals, polymers, ceramics), pastes and two-part systems. All our pre-clinical studies are custom designed to suit your investigational device either alone or in comparison with standard of care products, taking into account the type of implant, its intended use and duration of patient contact.

As experts in bone tissue samples we are able to offer **advanced histology services** which include decalcification for paraffin sections or embedding in polymethylmethacrylate resin techniques. We can process hard implants (metal, polymers and ceramics) without removal for detailed evaluation of the interface between the device and the cellular layer of the implant.

And unlike other preclinical CROS, we have proven our testing and evaluation services meet regulatory requirements for market authorisation as we have **already brought our own medical device to market** (Tisseos® resorbable synthetic membrane in dentistry). We are ISO 13485 accredited.

Animal studies in:

- Rodents
- Rabbits
- Goats
- Sheep
- Pigs

Implant types:

- Orthopaedic Implants
- Osteoinductive Materials
- Tissue Engineering Products
- Cardiovascular Implants
- Solid implant types made from:
 - Metals
 - Polymers
 - Ceramics
- Pastes
- Two part systems (to be mixed in situ before implantation)

Services:

- Functional implantation studies (ISO 10993-6)
- Implant surface analysis
- Biocompatibility testing of medical devices
 - Cytotoxicity
 - Sensitization
 - Irritation
- Microbiological testing of medical devices
 - Cleaning
 - Disinfection

Test specifications:

- Definition of the most adequate control material
- Evaluation of tissue response through histology up to final integration or resorption/degradation of the material
- X-ray, SEM or Micro-CT examination of:
 - Fracture repairs
 - Long bone defect repair
 - Cortical, cranial, trabecular, maxillofacial defects
 - Orthopedic prosthetic infection



Image courtesy of Biotech International.

Non-decalcified histology showing a sandblasted then anodized surface 4 weeks after implantation in rabbit femoral condyles (Basic Fuchsin and Methylene Blue stain).

Biomedical Tissues is a preclinical contract research organisation that offers implantable biomaterial and medical device testing and evaluation services.

Biomedical Tissues
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