BTI Biotechnology Institute is a Spanish biomedicine company focused on the development of translational research projects (R&D+i).

BTI is a world-level scientific leader in regenerative medicine using ENDORET in different fields of medicine.

MORE THAN 5000 M² DEVOTED TO TRAINING, CLINICAL PRACTICE AND RESEARCH

WE TRAIN IN ORDER TO OPTIMISE THE CLINICAL RESULTS

**Specific training** aimed at different medical specialisations.

More than 40 scientific collaboration agreements with universities and research institutes all over the world.

More than 1200 students per year of all nationalities.
TRANSLATIONAL RESEARCH: KNOWLEDGE ACQUIRED IN THE LABORATORY APPLIED TO CLINICAL PRACTICE

Collaboration with experts from different countries in different fields of medicine for the development of clinically effective protocols.

MORE THAN 100 INDEXED SCIENTIFIC PUBLICATIONS BACK THE EFFECTIVENESS AND BIOSAFETY OF ENDORET®

20% of the workforce dedicated to research.

More than 15 years of research in tissue regeneration.

"Principe Felipe" prize for technological innovation.
What is it?

Endoret® is a biomedical technology aimed at stimulating tissue regeneration by applying autologous proteins.

Hundreds of endogenous proteins affect the tissue repair processes, including angiogenesis, chemotaxis and cell proliferation. No exogenic agent can effectively govern all these processes. (1)

Endoret technology provides the necessary means for the isolation and concentration of the blood proteins involved in tissue regeneration, as well as its suitable application at the injury site. (2)

**2 ACTIVE PRINCIPLE**

**A. GROWTH FACTORS**

**ENDORET** stimulates tissue regeneration due to its content in growth factors, in greater concentrations than those of blood. (3)

**QUANTIFICATION OF THE INCREASE IN VEGF (VASCULAR ENDOTHELIAL GROWTH FACTOR) AND PDGF (PLATELET DERIVED GROWTH FACTOR)**

![Graph showing the increase in VEGF and PDGF](image)

* p<0.05

**B. FIBRIN MEMBRANE**

Enables the balanced and gradual release of a large number of molecules, including growth factors and other proteins. (4) (5)
3 MECHANISMS OF ACTION

1. Promoting angiogenesis
2. Stimulating cell migration \(^6\)
3. Increasing cell proliferation \(^7\)
4. Decreasing inflammation \(^8\)
5. Stimulating autocrine and paracrine secretion

ENDORET ACCELERATES CELL MIGRATION FOR REGENERATIVE PURPOSES \(^6\)

ENDORET TECHNOLOGY REDUCES THE TISSUE REPAIR TIME \(^9\) \(^10\)

RESPONSE OF THE TISSUE

- \(\text{HAEMOSTASIS}\)
- \(\text{INFLAMMATION}\)
- \(\text{PROLIFERATION}\)
- \(\text{REMODELLING}\)

SCAN THE CODE WITH YOUR SMARTPHONE TO WATCH THIS VIDEO

RESPONSE OF THE TISSUE (Reduction in recovery time)
With Endoret technology we can make 4 different therapeutic formulations and adapt them to the different clinical goals. (11)

- **1. LIQUID**
- **2. CLOT**
- **3. AGGLUTINATING A GRAFT WITH BIOMATERIAL**
- **4. MEMBRANE**

**SAFETY**

Autologous product, there are no incompatibilities nor risk of rejection.

All the formulations of ENDORET have a bacteriostatic and bactericidal effect, especially during the 4 hours after application. (12)

More than 700,000 patients have been treated in more than 20 countries, without any adverse effects being reported.

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(6) Anitua E, Troya M, Orive G. Plasma rich in growth factors promote gingival tissue regeneration by stimulating fibroblast proliferation and migration and by blocking transforming growth factor-


1 ARTHRITIS

ENDORET® IS THE ONLY PLASMA RICH IN GROWTH FACTORS WHICH HAS BEEN PROVEN TO BE EFFECTIVE IN TWO CLINICAL TRIALS AT EVIDENCE LEVEL I

1.1 EVIDENCE LEVEL I CLINICAL TRIAL

ENTROA\textsuperscript{(13)}: ENDORET® TREATMENT FOR OSTEOARTHRITIS

Randomised clinical trial for the evaluation of ENDORET compared to hyaluronic acid (3 infiltrations) in the treatment of symptomatic osteoarthritis of the knee.

ENDORET® LESSEN SIGNIFICANTLY THE PAIN AND THE RIGIDITY OF THE OSTEOARTHRITIS OF THE KNEE\textsuperscript{(14) (15) (16) (17)}

70% OF PATIENTS IMPROVED WITH ENDORET\textsuperscript{(13)}

During the study period, ENDORET reduced pain more and more effectively while the efficiency of hyaluronic acid was gradually reduced.

None of the patients treated with ENDORET presented adverse reactions to the treatment.
1.2 EVIDENCE LEVEL I CLINICAL TRIAL

**ENLOA**(18): ENDORET® LONG TERM TREATMENT FOR OSTEOARTHRITIS

Randomised clinical trial for the evaluation of ENDORET compared to hyaluronic acid in the treatment of symptomatic osteoarthritis of the knee.

**UP TO 83% OF PATIENTS TREATED WITH ENDORET® EXPERIENCED LESS PAIN**

60% of patients continued to report less pain* a year after treatment with ENDORET.

ENDORET is safe and significantly superior in terms of pain reduction than Durolane (hyaluronic acid) after 24 and 48 weeks of treatment.

*At least a 30% reduction in pain.

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2 TENDINOPATHY AND LIGAMENT INJURIES

ENDORET stimulates the proliferation of the tendon cells and increases the synthesis of key molecules such as VEGF and HGF. (18) (19)

OUTPATIENT INFILTRATION WITH ENDORET® MAY BE AN ALTERNATIVE TO RECONSTRUCTIVE SURGERY (20) (21)

In cases of:
· Chronic tendinopathy
· Acute tendon rupture
· Chronic tendon rupture in patients with a low functional demand.
· Torn ligaments

ULTRASOUND-GUIDED INFILTRATION OF ENDORET FOR TENDINOPATHY

Treatment with ENDORET in ACL reconstruction increases the maturity and ligamentisation of the autologous grafts. (22) (23) (24)

**ENDORET® TECHNOLOGY REDUCES THE RECOVERY TIME AFTER SURGERY BY HALF.** (25)

* p<0.05

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**ENDORET® TECHNOLOGY**

- REDUCES THE RECOVERY TIME AFTER A SURGICAL RECONSTRUCTION OF A RUPTURED ACHILLES TENDON

- **RECOVERY TIME AFTER A SURGICAL RECONSTRUCTION OF A RUPTURED ACHILLES TENDON**

- Treatment with ENDORET in ACL reconstruction increases the maturity and ligamentisation of the autologous grafts. (22) (23) (24)

**3 OTHER APPLICATIONS**

ENDORET can help athletes recover from muscular injuries more quickly. (26) (27) (28) (29) (30)

In treatments of pseudoarthritis ENDORET encourages bone regeneration. (31) (32)


COMPONENTS OF ENDORET® TECHNOLOGY

1 ENDORET® DISPOSABLE KIT
SINGLE-USE KIT*

* MEDICAL DEVICES CERTIFIED FOR USE WITH MUSCULOSKELETAL INJURIES BY THE GERMAN NOTIFIED BODY TÜV

EXTRACTION SYSTEM

- Extraction tubes (4)
- Winged blood collection set (1)
- Identification labels (5)

FRACTIONING SYSTEM

- Fractioning tubes (2)
- Plasma Transfer Device® (1)
- Activator (1)
- Activation syringe (1)

KIT EDK1
(AVAILABLE IN OTHER FORMATS)
2 ENDORET® EQUIPMENT*

- Centrifuge System IV
- Plasmaterm H
- Transport rack
- Work rack
- Activation containers

* MEDICAL DEVICES CERTIFIED FOR USE WITH MUSCULOSKELETAL INJURIES BY THE GERMAN NOTIFIED BODY TÜV

3 ENDORET® TRAINING

Exclusive training adapted to medical needs. We share our new clinical research and provide training for innovative, top-quality healthcare.

4 ENDORET® CERTIFICATION

We certify the clinical qualification and experience of our customers with our training certificates and BTI certification seals.
Endoret is the technology with the most experience on the market in the development of specific protocols for tissue regeneration, a pioneering technology manufactured exclusively by BTI Biotechnology Institute.

OPTIMUM CONCENTRATION OF PLATELETS
The right concentration of platelets affects the final efficacy. (30)

FORMULATION FREE OF LEUKOCITES
The inclusion of leukocytes increases the pain and inflammation. (31)

CONTROLLED ACTIVATION
Enables the formation of the fibrin matrix in situ and the gradual release of growth factors, maintaining its efficacy over time. (32)

AUTOLOGOUS
It is made from the patient’s own blood, so there are no known adverse effects. (33)

REPRODUCIBLE
The protocol for the preparation process and its clinical application is strictly defined and tested.

VERSATILE
4 therapeutic formulations obtained in the same process means we can adapt the product to the patient's clinical needs. (34) (35)

The application of Endoret technology is a Health Product for Human Use that complies with all the regulations required by the Spanish Agency of Medications and Medical Devices.

QUALITY ASSURANCE

- The ENDORET closed-technique system complies with the highest standards of quality.
- Both the system and the materials have the EC health certificate awarded by TÜV for specific application to musculoskeletal injuries.

GUARANTEES OF EFFICACY

- BTI has the greatest clinical support in the world published in this field; its effectiveness is proven in more than 100 international scientific publications.

ADDITIONAL GUARANTEES

- BTI certifies its customers' specific training in the use of this technology.
- In addition, BTI guarantees the traceability of its materials, and helps transfer all necessary information to its patients.