



BT4023

Specifications

Cryopreserved pulmonary homograft. It consists of the complete pulmonary valve, including the myocardial ring and a segment of pulmonary artery and option of the pulmonary branches (bifurcation).

Measurements:

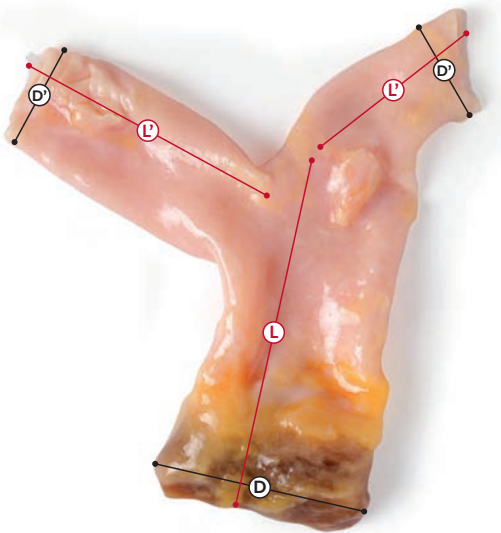
- Valve annulus diameter: 5-35 mm (**D**)
- Right/left pulmonary branch diameter: 5-24 mm (**D'**)
- Pulmonary trunk length: 15-50 mm (**L**)
- Right/left pulmonary branch length: 5-60 mm (**L'**) (when bifurcation is preserved)

Clinical applications

Valve replacement.

Specially indicated in:

- Ross procedure (pulmonary valve autograft in the aortic position)
- Infections
- Congenital malformations
- Young patients and women in fertile age, as no anticoagulant treatment is required



Tissue acquisition

The tissue is obtained from donors who undergo careful assessment of their medical-social history and a thorough physical examination. The standard serological screening includes: HIV-1/2 antibodies, HIV-antigen, HIV1 -RNA, HBsAg, HBc antibodies, HBV-DNA, HCV-antibodies, HCV-RNA, syphilis, HTLV I/II antibodies. Microbiological screening and the supplementary tests considered necessary are also carried out. The tissues are extracted within 24 hours of death in the operating theatre using sterile techniques. Once the tissue is obtained, it is kept at 4 °C until processing.

Processing

All processes carried out at the Barcelona Tissue Bank (BTB) are subject to a quality system designed to meet the requirements of the Good Tissue Practices (GTPs) principles and guides and the European Union's Good Manufacturing Practices (GMP). They also meet the requirements arising from the authorisations for investigational drugs, the requirements established in Royal Decree-law 9/2014 for the processing, preservation and distribution of tissues and cells for transplantation, the quality management requirements established in Standard ISO 9001 and the technical specifications for the products obtained, ensuring their quality, safety and efficacy.

Processing of the pulmonary valve includes: an antibiotic decontamination phase (vancomycin, amikacin, metronidazole, ciprofloxacin and amphotericin B) before packaging the tissue in a double bag with cryoprotectant solution containing 10% DMSO, programmed freezing and storage in quarantine until all the quality controls performed are reviewed and approved.

Storage

The cardiovascular tissues are preserved in nitrogen tanks at a temperature between -140 and -196 °C. The product expiry date is five years from its processing, as long as the integrity of the packaging is maintained.

Transport

The validated transport system from the Barcelona Tissue Bank (BTB) consists of placing the tissue in dry ice (-80 °C) in an external container, protecting its integrity at all times. The temperature is kept at the defined limits for 48 hours and the instructions for use and thawing are attached to the shipment documentation. Once the tissues have been placed in the dry ice, they can not be returned to the nitrogen tanks due to the damage caused by changes in temperature. In special cases, tissues may be transported in a dry-shipper with nitrogen in gas phase (-140 °C).

Coding

In compliance with the legal requirements of the Commission Directive (EU) 2015/565, all tissues are identified and labelled with the "Single European Code" (SEC). This code is a unique identifier that facilitates traceability and provides information on the main characteristics and properties of those tissues and cells distributed in the European Union. The SEC consists in 40 alphanumeric characters, representing the donation identification sequence and product identification sequence. The last 8 characters correspond to the expiry date of the product, represented in the format YYYYMMDD.

Traceability

The clinical use of tissues and cells of human origin provides major benefits for recipients. Like any product of human origin, their use is not free of risks, which although infrequent, can be serious.

A robust system is required, capable of placing, locating and identifying the cells and tissues at any point in the process, from donation to recipient, to ensure rapid intervention. This prevents damage or potential risk when the quality and safety of the donated tissues and cells are compromised. Each tissue is identified with a unique code to permit tracking from origin to destination.

Once the tissue is transplanted, the code must be attached to the recipient's clinical history. The tissue bank must be informed

when it has been transplanted, providing the recipient's clinical history number or initials. The bank should also be informed if the tissue is not transplanted.

Biovigilance

If there is suspicion or evidence of a severe adverse reaction or effect in the recipient possibly related to the safety and quality of the transplanted tissue or cells, the physician must immediately contact the tissue bank or competent health authority.

A severe adverse reaction or adverse effect notification form is provided for each tissue.

Regulatory legislation on tissues

The Barcelona Tissue Bank has administrative authorisation no. E08796463 issued by the

competent authority. The regulated activities include donation, acquisition, assessment, processing, preservation, storage and distribution. Human tissues processed under the control of the bank meet the requirements of Spanish legislation (Royal Decree law 09/2014) and European Directive 2004/23 and directives 2006/17/EC, 2006/86/EC, 2012/39/EU developing it. BTB follows the standards of the principal scientific associations: *Asociación Española de Bancos de Tejidos* (AEBT), European Association of Tissue Banks (EATB), American Association of Tissue Banks (AATB), European Eye Bank Association (EEBA), and the recommendations of: Good Tissue Practices (Euro-GTP) and the Council of Europe EDQM Guide to the quality and safety of tissues and cells for human application.