OROPRO™

Cryopreserved Umbilical Cord and Wharton's Jelly Allograft

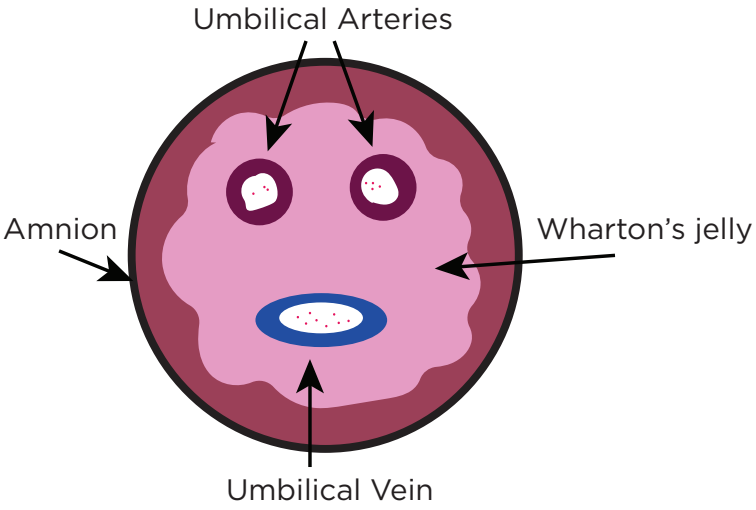
OROPRO™ is a cryopreserved human tissue allograft derived from the umbilical cord and Wharton's jelly. **OROPRO™** is aseptically processed to preserve the cytokines, growth factors and proteins of Wharton's jelly for homologous use.

OROPRO™

Benefits of Umbilical Cord and Wharton's Jelly Allografts

For years, the umbilical cord was discarded as bio-waste before it was discovered to be rich in cytokines, active biologics with immunomodulatory activity, growth factors, a biologically active extracellular matrix (ECM), and mesenchymal stem cells. Umbilical cord mesenchymal stem cells are derived from the outer lining membrane of the umbilical cord or Wharton's jelly, and due its previous designation as medical waste, the collection procedure is ethically acceptable. Umbilical cord and Wharton's jelly allografts demonstrate anti-inflammatory, immunomodulatory, and regenerative properties that have been shown to support wound healing and improved overall health.

OROPRO™ is processed from donated human tissue from full term deliveries in accordance with FDA guidelines, and is intended for homologous use.



Cross Section of Umbilical Cord

Investigations regarding the application of mesenchymal stem cells from the umbilical cord as a replacement for embryonic stem cells began in the early 1980s and the first transplantation was performed in 1986. As research progressed, it became evident that umbilical cord mesenchymal stem cells could overcome the pre-existing difficulties inherent to bone marrow-derived stem cells and adipose derived stem cells.

More specifically, umbilical cord mesenchymal stem cells demonstrate faster cell proliferation and migratory potential than bone marrow stem cells and have stronger immunosuppressive (immunomodulatory) properties, which make them a practical alternative for tissue repair and regeneration. Accordingly, umbilical cord mesenchymal stem cells differentiate into neurons, chondrocytes, osteoblasts, adipocytes, and fibroblasts, thereby demonstrating their multipotent nature.

The amount and administration (injected or applied topically) of the allograft is determined by the clinician based on the intended use in each patient case. The product is distributed as a liquid allograft contained in a vial that is shipped frozen for preservation (-80C, on dry ice) and is intended to be stored in that frozen state (-60C to -80C or colder) until used or expiration date is reached.

OROPRO™ can be ordered in 2 different vial sizes: 1.0 mL or 2.0 mL. The product is simply drawn up after proper thawing using a 21 G-23G needle to syringe and then prepared and applied as determined by a licensed clinician.

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About OROPRO™

OROPRO™ is umbilical cord connective tissue and Wharton's jelly that is derived meticulously through our proprietary process that maintains its biologically active components.

Our **CryoGen™** controlled-rate freezing process also cryopreserves the allografts without significantly affecting cell viability.

The associated components of umbilical cord tissue are:

+ **Mesenchymal stem cell (MSCs) attributes:** : The MSCs are derived from a biologically young source, have viable MSC count, and antibodies such as immunophenotype CD73+, CD90+, and CD 105 that are consistent with MSC morphology.

+ **Bioactive ECM and Growth factors:** Adhesion G protein, platelet derived growth factor (PDGF), Epidermal growth factor (EGF) and Basic fibroblast growth factor (bFGF).

+ **Cytokines:** : IL-1RA (A natural inhibitor of the pro-inflammatory effect of IL1b), IL-2R (Promotes the differentiation of certain immature T cells into regulatory T cells), IL-4 (Inhibits classical activation of macrophages into M1 cells), and IL-13 (Mediator of allergic inflammation).

Advantages of OROPRO ™

OROPRO™ is a cryopreserved, human umbilical cord that comprised of anti-inflammatory, anti-microbial, and anti-fibrotic cytokines and growth factors, as well as mesenchymal stem cells and an intact, biologically active ECM that provides the biomaterial for wound healing.

OROPRO™ delivers an injectable, flowable tissue matrix that supplies the body with various bioactives that promote tissue rehabilitation.

OROPRO™

SKUs

401-100-1000-001 - 1mL
401-200-2000-001 - 2mL

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