

Introducing

AVENOVA

ALLOGRAFT

feather light, BUT POWERFUL

The BioREtain® process preserves a high concentration of growth factors and cytokines - making AVENOVA ALLOGRAFT more effective than other dehydrated membranes.

ADVANCED HEALING

AVENOVA ALLOGRAFT is an ultra-thin, ultra-light structural tissue allograft composed of the amnion layer of the placental membrane. AVENOVA ALLOGRAFT is intended for homologous use as a protective covering for the repair of ocular surfaces.

Amniotic tissue is a natural reservoir of growth factors, extracellular matrix (ECM) components, and anti-inflammatory cytokines which are known to support the body's natural healing processes.

Present ECM:

- Collagen
- Laminin
- Glycosaminoglycans
- Hyaluronic Acid
- Fibronectin

The ECM of the amniotic membrane provides mechanical protection and functional support for cell attachment, proliferation, and migration.

Present Growth Factors:

- HGF
- PDGF-BB
- RANTES
- MIPIa
- bFGF
- EGF

Growth factors modulate inflammatory responses, enhancing proliferation and angiogenesis.

Present Anti-Inflammatory Cytokines:

- IL - I Receptor Antagonist (IL-1ra)

These substances naturally inhibit pro-inflammatory effects of IL-1.



*multiple sizes available

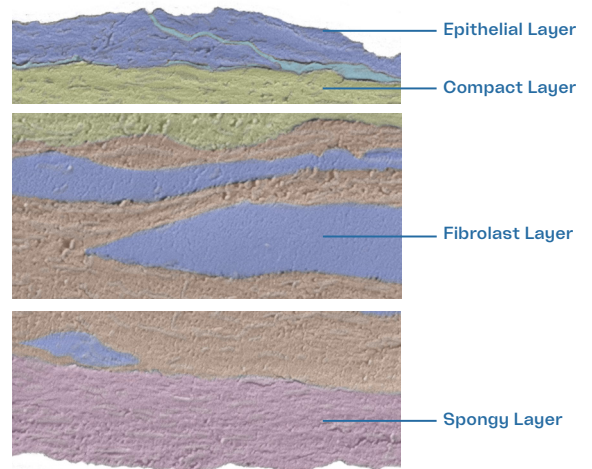
The Science Behind Avenova Allograft

A NATURAL FOUNDATION FOR HEALING

Dehydrated human amniotic membrane (DHAM) is a potent source of pro-healing growth factors and anti-inflammatory cytokines that have successfully been used in regenerative medicine for over a century. Early users of DHAM for wounds and post-surgical applications noted how the membrane seemed to disappear and integrate with the patient's own tissue without a host reaction. This apparent immune neutrality is a result of mechanisms that suppress and modulate the immune system.

The use of amniotic tissue was initially limited due to storage challenges. Modern processing methods—including dehydration—have delivered options that have longer shelf lives, can be stored at ambient temperatures, and can be terminally sterilized. These advances also allow manufacturers to create thinner coverings that are suitable for delicate ophthalmic use.

Today, dehydrated human amniotic membrane (DHAM) continues to be widely used and studied as an ophthalmic covering across a range of topical applications.



Source: West Virginia University - Electron Microscopy Facilities; Marcela Redigola PHD

Structure of the Amniotic Membrane:

The amniotic membrane forms the inner most layer of the human placenta and acts as a protective barrier for the developing fetus. Interestingly, the basement membranes of fresh AM and the conjunctiva of the eye share an identical distribution of components (laminin-1, laminin-5, fibronectin, and type VII collagen).

THE INTRINSIC PROPERTIES OF DEHYDRATED HUMAN AMNIOTIC MEMBRANE (DHAM)

make AVENOVA ALLOGRAFT a versatile option for a wide variety of topical covering applications

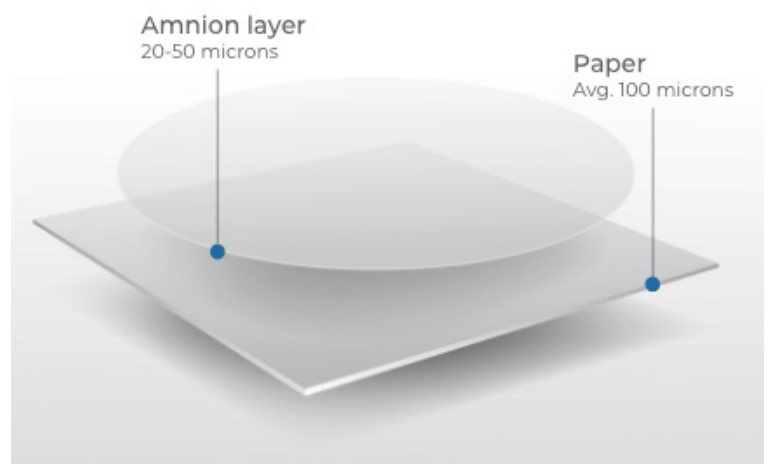
Properties of Dehydrated Human Amniotic Membrane

- Helps prevent local contamination
- Demonstrates antimicrobial properties
- Helps prevent moisture loss
- Provides a scaffolding for tissue healing
- Contains a range of growth factors
- Contains anti-inflammatory cytokines

AVENOVA ALLOGRAFT consists of only the amnion layer of the placental membrane. This single layer of amnion measures between 20-50 microns thick, making AVENOVA ALLOGRAFT ideal for delicate ophthalmic applications.

AVENOVA ALLOGRAFT

- Can be applied directly to the eye without the use of additional hardware or sutures
- Has no orientation issues- can be placed with either side facing down
- Is aseptically processed and terminally sterilized via e-beam irradiation
- Has a 4-year shelf life and can be stored at ambient temperatures



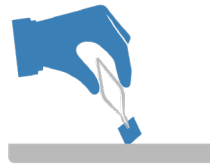
AVENOVA ALLOGRAFT is differentiated by the proprietary BioREtain[®] process. This process creates a dehydrated human amniotic membrane (DHAM) allograft.

6 STEPS WORK TOGETHER TO PRESERVE THE NATURAL INTEGRITY OF AMNIOTIC TISSUE.



Minimally Damaging Disinfection

The membrane is submerged in an effective bactericidal, tuberculocidal, fungicidal and virucidal solution to eliminate pathogens.



Manual Hematopoietic Reduction

Blood and blood-producing components are removed by hand without scraping or scrubbing to preserve membrane structure.



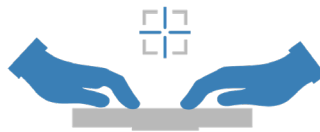
Cold Isotonic Cleansing

A series of washes in clean, low-temperature, pH-balanced solution with gentle stirring remove remaining debris while minimizing tissue and growth factor breakdown.



Gentle and Gradual Dehydration

Slow drying of the membrane using physiological temperature preserves tissue structure and natural growth factors, preventing damage from freezing of high temperatures.



Precise Cutting Die Placement

Precise manual placement of cutting dies helps ensure optimal tissue quality for each individual allograft.



Low-Dose E-Beam Terminal Sterilization

Grafts are individually packed and terminally sterilized to an assurance level of 10^{-6} via electron beam, avoiding harmful byproducts or excessive irradiation associated with other methods.

10 CHARACTERISTICS OF AVENOVA ALLOGRAFT

1. Easy to use and store
2. Adheres with hydrostatic tension
3. Acts as a barrier to prevent moisture loss
4. High concentration of regenerative factors
5. High concentration of anti-inflammatory growth factors
6. Maximizes retention of regenerative and growth factors
7. Regenerative and growth factors promote healing
8. Membrane layer is processed intact
9. No harsh chemicals
10. No cryopreservants

Avenova Allograft

PRODUCT INFORMATION



PREPARATION TIME

None

SHELF LIFE

Up to 4 years at room temperature

MANUFACTURING

Avenova is proud to be partnering with BioStem Technologies®, a leading innovator of best-in-class perinatal tissue allografts. BioStem labs are AATB® accredited, FDA® registered and cGMP compliant.

SIZE OPTIONS: 8 mm, 10mm, 12mm

CARE PARTNER PROGRAM

Have questions or need assistance with reimbursement or coding?

In partnership with BioStem Technologies, Avenova is proud to be able to offer our customers access to the Care Partner Program. The Care Partner team is committed to facilitating the best possible customer experience and answering your questions about the coding and reimbursement process.

Contact the BioStem team of experienced professionals:

Email: reimbursement@biostemtech.com

Reimbursement Hotline (Toll-Free): 1-888-948-BSEM (2736)

Contact our Avenova product experts for more information or to place an order:

Avenova Customer Care:

1-800-890-0329

Email Inquiries:

sales@avenova.com

AVENOVA
avenova.com

AVENOVA ALLOGRAFT is a perinatal tissue-derived allograft. Each product is designated as a Human Cell, Tissue and Cellular and Tissue-Based Product (HCT/P) by the U.S. Food and Drug Administration (FDA), minimally manipulated, and produced in accordance with the FDA regulations for Good Tissue Practices (21 CFR 1270, 1271) in our AATB accredited lab.

This brochure does not contain medical or clinical advice. It is intended for educational purposes only. Data and references are on file with BioStem Technologies.