AMBIO2® AMBIO5®

Clearify™ processed surgical amniotic membrane allografts

Solutions to support ophthalmic surgical recovery

Ambio2:

- Pterygium excision
- Corneal ulcers
- Corneal erosions
- Conjunctival chalasis
- Chemical and thermal burns

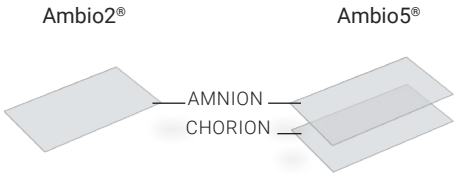
Ambio5:

- Symblepharon
- Fornix reconstruction
- Vast pterygium excision
- Stevens-Johnson Syndrome

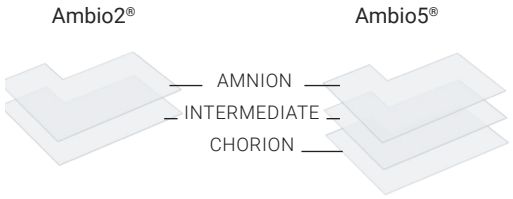
Only Ambio allografts with Clearify™ Technology retains all three layers of native amniotic membrane, providing a more robust biostructure with high protein content and excellent handling characteristics.*

- Five year shelf life with convenient, ambient room temperature storage
- Only allografts on the market shaped with a convenient tab for easier surgeon manipulation and handling
- Only the Clearify™ process retains the intermediate layer which maintains significantly higher levels of desirable nutrients for the cornea[5]
- Multi-layer Ambio allografts retain 80% more hyaluronic acid (HA) than previous generations*

Previous generation amniotic membrane layers



Clearify™ processed next generation amniotic membrane layers



*Data on file at Katena Products

Ordering Information

AD-5120 1.5x2 cm **Ambio2**
amnion & intermediate layer

AD-5230 2x3 cm **Ambio2**
amnion & intermediate layer

AD-5440 4x4 cm **Ambio2**
amnion & intermediate layer

AF-1120 1.5x2 cm **Ambio5**
amnion, intermediate & chorion

AF-1230 2x3 cm **Ambio5**
amnion, intermediate & chorion

AF-1440 4x4 cm **Ambio5**
amnion, intermediate & chorion

Dehydrated not denatured

Essential elements present in the intermediate layer

The intermediate layer of amniotic membrane tissue contains detectable levels of the following essential elements*

HA	EGF	IL-4	IL-10	TGF- β	TGF-α	PDGF-AA	PDGF-BB	VEGF	TIMP-1	TIMP-2	TIMP-4	bFGF
✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

Below is a description of the regulatory components found in the intermediate layer and the function these components perform in utero.

- Hyaluronic acid (HA)
  Involved in cell migration and the proliferation of fibroblasts.
- HA is naturally found in the eyes and often use during eye surgery to reduce inflammation and speed wound healing.[1,2,3]
- Epidermal Growth Factor (EGF)
  Plays an important role in epithelialization, attracts endothelial cells and fibroblasts and helps regulate angiogenesis and tissue integrity.
- Interleukin-4 (IL- 4)
  Involved in regulating and decreasing inflammation. Plays a role in the synthesis of new extracellular matrix.
- Interleukin-10 (IL-10)
  Plays a role in downregulating the inflammatory response and the expression of inflammatory cytokines, such as IL-6 and TNFα.
- Transforming Growth Factor β (TGF-β)
  Active in epithelialization, matrix formation and tissue remodeling.
- Transforming Growth Factor α (TGF- α)
  Stimulates migration and proliferation of epithelial cells and keratinocytes.
- Platelet Derived Growth Factor AA (PDGF-AA
  Platelet Derived Growth Factor BB (PDGF-BB)
  Have been shown to stimulate the production of collagen and glycosaminoglycans by fibroblasts. Attract neutrophils to wound site to remove contaminating bacteria.
- Vascular endothelial growth factor (VEGF)
  Assists wound healing by stimulating the process of forming new blood vessels known as angiogenesis.
- Basic Fibroblast Growth Factor (bFGF)
  Regulator of fibroblast and epithelial cell migration.
- Tissue Inhibitors of Metalloproteinases 1, 2 (TIMP-1, TIMP-2, and TIMP-4) Help regulate extracellular matrix integrity and inhibit angiogenesis. Inhibits matrix metalloproteinases which are elevated in patients with dry eye and have been found in the tears of those patients with recurrent corneal erosions.

References

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1772195/#r4
2. https://www.ncbi.nlm.nih.gov/pubmed/26978861
3. https://www.ncbi.nlm.nih.gov/pubmed/25039417
4. https://www.stimlabs.com/process
5. Roy, A., & Griffiths, S. (2020). Intermediate layer contribution in placental membrane allografts. Journal of Tissue Engineering and Regenerative Medicine, 14(8), 1126-1135

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