

# AmnioWrap<sup>2</sup><sup>TM</sup>

## *Your Direct Connection to Regenerative Healing*

AmnioWrap<sup>2</sup><sup>TM</sup> is a minimally manipulated allograft comprised of unseparated amniotic membrane and chorionic membrane with the intact intermediate layer.

Benefits of the product are collagen ECM with encapsulated growth factors. These growth factors are there to support tissue development, angiogenesis and to modulate inflammation.

### Primary composition is:

- Collagen
- Laminin
- Fibronectin
- Hyaluronic Acid from Wharton's Jelly.
- 200+ Cytokines (Growth Factor Proteins).

Product is packaged dry and stored at room temperature.

- 5 year shelf life.
- Thickness ~250 microns.
- Immune privileged tissue.
- Amniotic tissue is naturally antimicrobial due to the presence of defensins.
- Contains inflammatory modulating growth factors.
- Angiogenic growth factors to promote cell recruitment and tissue healing.
- Anti-inflammatory growth factors decrease chronic inflammation.

**Direct Biologics is an innovative technology company focused on developing and providing regenerative biologic products for the medical market.**

DIRECT



BIOLOGICS<sup>TM</sup>

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# AmnioWrap<sup>2</sup>™

**STORE AT ROOM TEMPERATURE**

## For Surgical Applications:

- Amniotic tissues help create a plane of dissection for healing while reducing scarring of adjacent tissues.

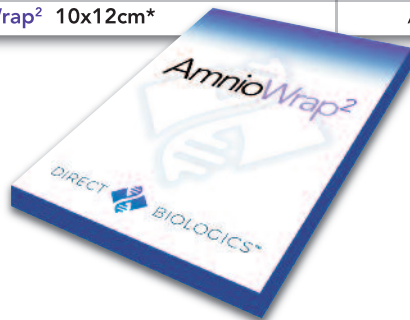
## For Topical Applications:

- When placing the amniotic side down, it will directly place EGF (Epithelial Growth Factors) on a partial thickness wound site.
- For deeper topical wounds, placing chorionic side down will place VEGF and FGF growth factors directly on the wound to help stimulate angiogenesis and revascularization and promote fibroblast proliferation and functions.

Orientation is not necessary for internal applications.

## 10 DIFFERENT PRODUCT OFFERINGS AVAILABLE

PRODUCT	REF. NO.
AmnioWrap <sup>2</sup> 1x1cm	AW2-0101
AmnioWrap <sup>2</sup> 2x2cm	AW2-0202
AmnioWrap <sup>2</sup> 2x4cm	AW2-0204
AmnioWrap <sup>2</sup> 4x4cm	AW2-0404
AmnioWrap <sup>2</sup> 3x6cm	AW2-0306
AmnioWrap <sup>2</sup> 4x6cm	AW2-0406
AmnioWrap <sup>2</sup> 4x8cm	AW2-0408
AmnioWrap <sup>2</sup> 6x6cm*	AW2-0606
AmnioWrap <sup>2</sup> 8x10cm*	AW2-0810
AmnioWrap <sup>2</sup> 10x12cm*	AW2-1012



## GROWTH FACTOR

Growth Factor – Cytokine	Function
Growth Differentiation factor 15	Regulates apoptotic/inflammatory pathways in response to injury
Granulocyte macrophage colony stimulating factor	Immunomodulating – related to developing granulocytes and monocytes
Interferon Gamma	Immunomodulating
Interleukin 1 alpha	Immunomodulating
Interleukin 1 beta	Immunomodulating
Interleukin 1 receptor antagonist	Immunomodulating
Interleukin 5	Stimulates immunoglobulin release
Interleukin 7	Immuno cell development
Interleukin 12 p40	Chemotactic
Interleukin 12 p70	Immuno modulating
Interleukin 15	Immunomodulating defense
Interleukin 17	interleukin 17 family
Macrophage stimulating factor	colony stimulating factor 1 (CSF1)
Osteoprotegerin	Affects osteoclast activity
Brain neurotrophic factor	Growth
Bone morphogenic 5	Bone-cartilage
Endocrine Vascular Endothelial GF	Angiogenesis
Fibroblast GF 4	Cellular activator
Fibroblast GF 7	Epithelial cell activity
Growth Hormone	Affects IGF-1
Insulin like GF 1	System growth-mitogenic activity
Insulin like GF binding 1	Stabilizes IGF-1
Insulin like GF binding 2	Stabilizes IGF-1
Insulin like GF binding 3	Stabilizes IGF-1
Insulin like GF binding 4	Stabilizes IGF-1
Insulin like GF binding 6	Stabilizes IGF-1

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