



Coll-e-DermTM RT

Hydrated Acellular Dermal Matrix
Human Regenerative Dermis

What is Coll-e-Derm **RT** ?

Coll-e-Derm RT is a prehydrated human acellular dermal matrix that retains angiogenin and collagen type IV. Angiogenin and collagen type IV may play a key role in supporting revascularization.¹



What Advantages Does Coll-e-Derm **RT** Offer?

Using a proprietary, patented and gentle process, a sterility assurance level (SAL) of 10^{-6} is achieved, while retaining angiogenin and collagen type IV of native dermis.¹

By preserving a more intact matrix, Coll-e-Derm RT maintains similar biomechanics to native dermis.¹

Coll-e-Derm RT Features ^{1,2}	Coll-e-Derm RT Advantages ^{1,2}
Proprietary and patented gentle processing	Retains angiogenin and collagen type IV
Intact Matrix	Revascularization
Pre-hydrated	Ready-to-use
Sterility Assurance Level (SAL) 10^{-6}	Favorable safety profile

¹ Testing performed by independent laboratory. Data on file, Aziyo Biologics. Animal and bench testing results may not necessarily be indicative of clinical performance.

² Coll-e-Derm RT Hydrated Instructions for Use

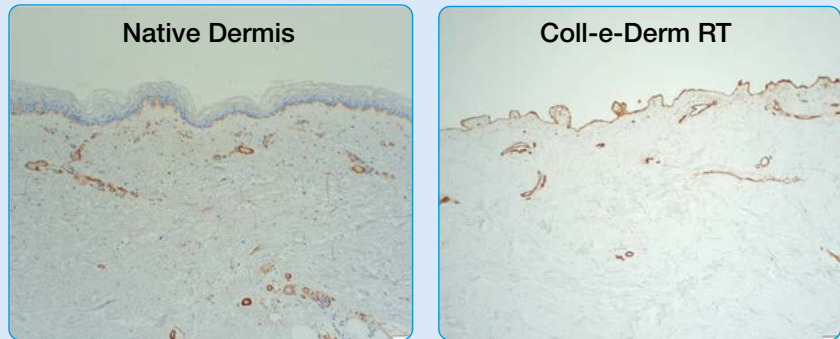
Coll-e-Derm RT Hydrated is to be used for the repair or replacement of damaged or insufficient integumental tissue or for other homologous uses of human integument.

How Does Coll-e-Derm **RT** Compare to Native Dermis?

Coll-e-Derm RT is proven to retain angiogenin and collagen type IV¹

Coll-e-Derm RT maintains structural integrity, mechanical strength, and collagen stability similar to native dermis.¹

Figure 1. The brown staining identifies collagen type IV, which is present in the basement membrane at the epidermis-dermis junction and around blood vessels. Collagen type IV is known to be involved in pathways that support blood vessel formation such as angiogenesis. Angiogenesis is the physiological process through which new blood vessels form from pre-existing vessels.



Collagen IV staining

	Mechanical Strength ¹		Collagen Stability ¹	
	Suture retention strength (N/mm)	Onset T ^m (°C)	% Soluble Col (w/w)	% Digested Col (w/w)
Native	61.0 ± 4.1	64.2 ± 0.2	47.6 ± 1.3	21.9
Coll-e-Derm RT	61.1 ± 12.2	61.3 ± 0.9	62.6 ± 1.2	26.7

Figure 2.

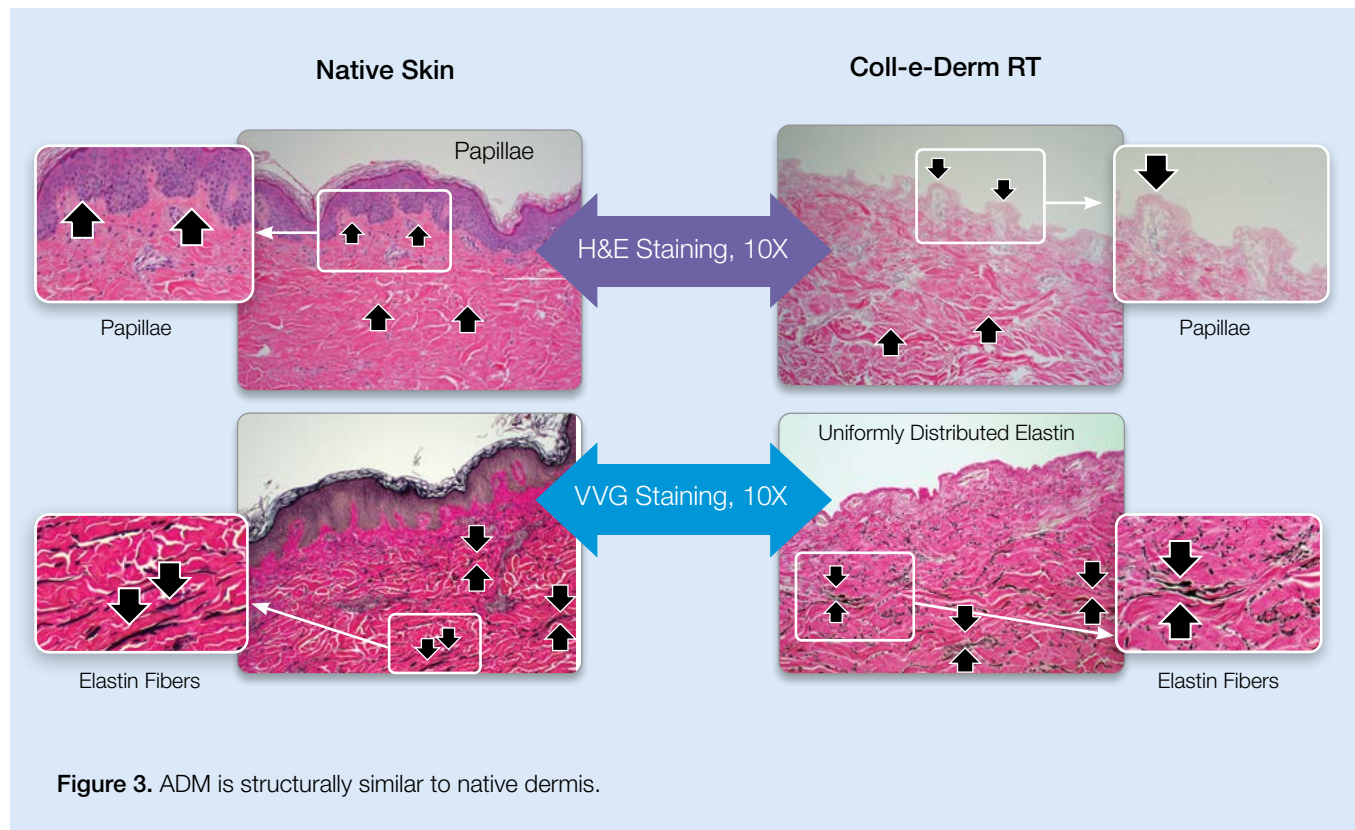
- Onset T^m: Temperature where a substance starts to melt
- % Soluble Collagen (w/w): Percentage of collagen fiber that can be dissolved in acid
- % Digested Collagen (w/w): Percentage of collagen fiber that is unraveled (in this case by collagenase type I)

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Robust Remodeling

Coll-e-Derm RT prehydrated Acellular Dermal Matrix (ADM) maintains structural attributes of native dermis that may facilitate remodeling.¹

Similar to native dermis, Coll-e-Derm RT retains intact collagen, elastin, and vascular structure that may provide a robust platform for allograft integration.¹



- Hematoxylin and eosin (H&E) staining shows cellular and tissue structure detail.
- Verhoeff-Van Gieson (VVG) staining differentiates collagen and other connective tissues, and highlights elastin fibers. Elastin fibers are connective tissue fibers that allow tissue to stretch.

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Comparing Coll-e-Derm **RT** Hydrated to AlloDerm[®] Ready-To-Use in a Non-Human Primate Model

Coll-e-Derm RT demonstrated lower inflammatory response, robust matrix regeneration and integration, and lower fibrotic response than AlloDerm[®] RTU in a non-human primate model.¹

Lower Inflammatory Response

Coll-e-Derm RT demonstrated lower inflammatory response than AlloDerm[®] RTU at 4 weeks¹



Figure 4a. Coll-e-Derm RT

CD68: gene indicative of inflammation

Figure 4b. AlloDerm[®] RTU

Lower Fibrotic Response

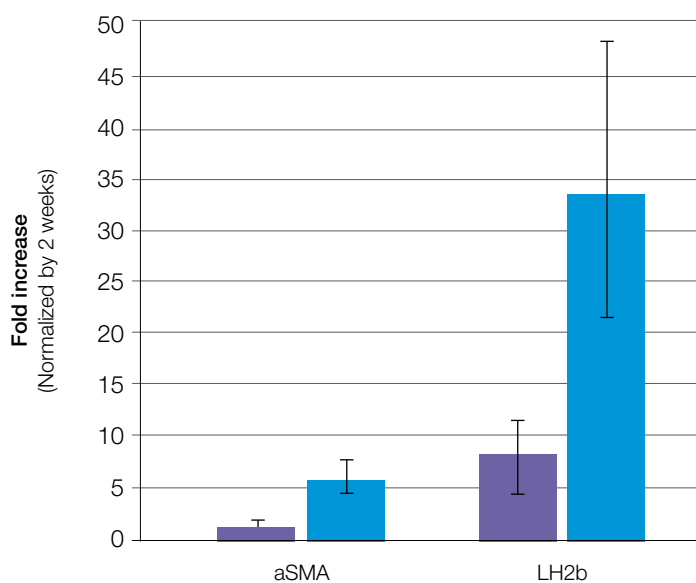


Figure 5. Coll-e-Derm RT demonstrated lower fibrotic response and cross-linking than AlloDerm[®] RTU at 12 weeks¹

aSMA: gene indicative of fibrosis

LH2b: gene indicative of collagen crosslinking

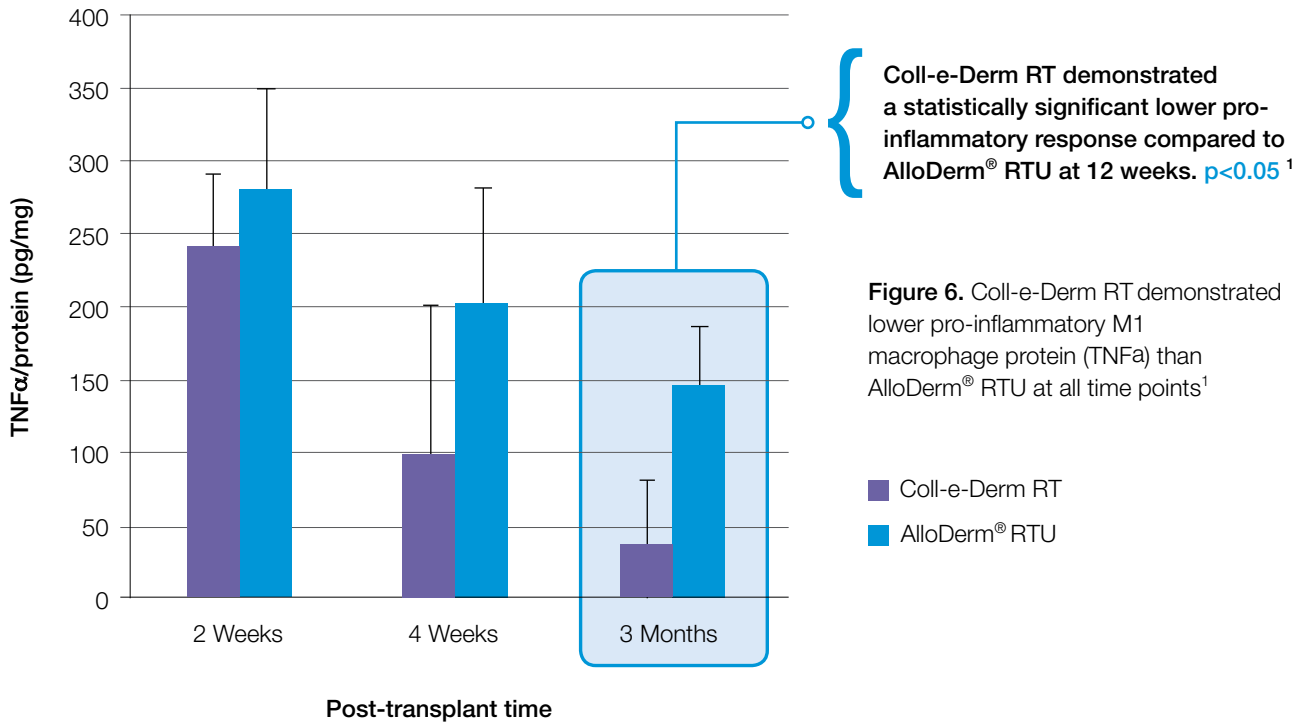
■ Coll-e-Derm RT

■ AlloDerm[®] RTU

Data indicates Coll-e-Derm RT Hydrated has significantly lower levels of aSMA, a gene indicative of fibrotic scarring and LH2b, a gene indicative of collagen cross-linking. Cross-linking may have adverse effects on host response.

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Healthy Regenerative Response



Coll-e-Derm RT demonstrated a statistically significant lower pro-inflammatory response compared to AlloDerm® RTU at 12 weeks. $p < 0.05$ ¹

Figure 6. Coll-e-Derm RT demonstrated lower pro-inflammatory M1 macrophage protein (TNFα) than AlloDerm® RTU at all time points¹

Greater Tissue Strength

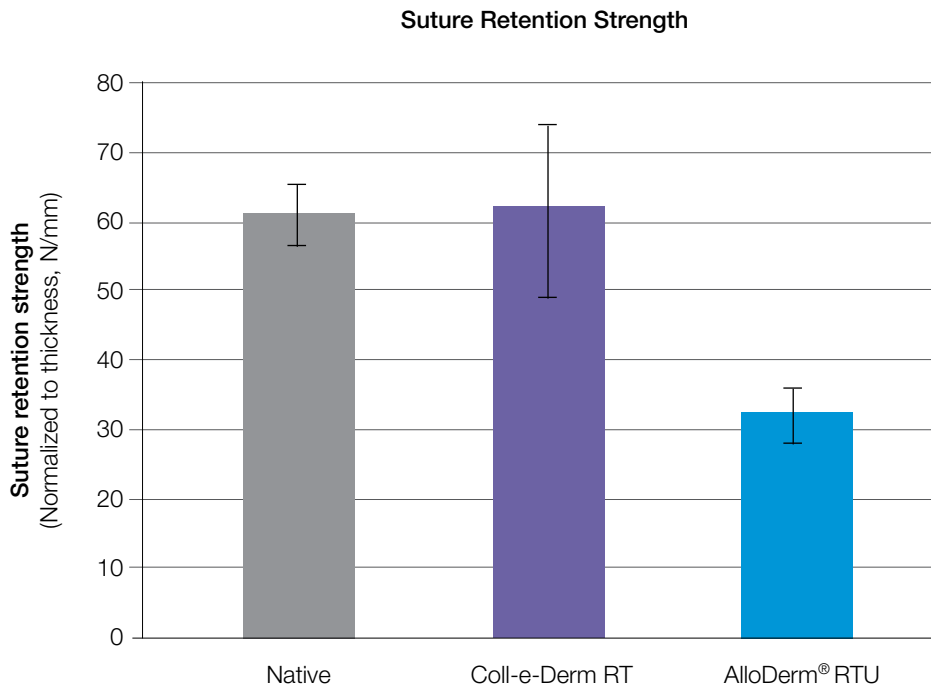
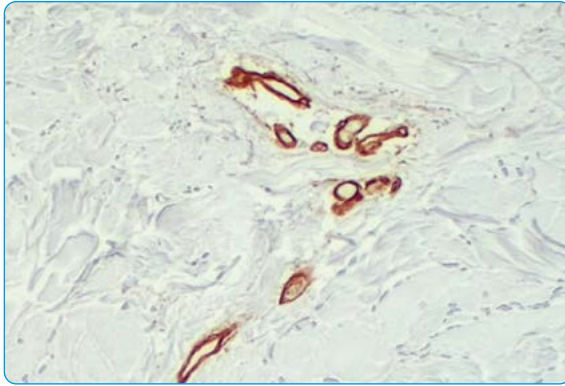


Figure 7. Coll-e-Derm RT retained mechanical properties, measured by suture retention strength, closest to that of Native Dermis.¹

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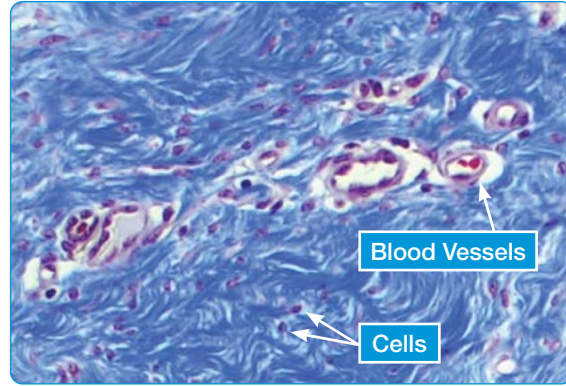
Tissue Integration

Coll-e-Derm RT demonstrated robust tissue regeneration at 12 weeks¹



Type IV Collagen

Figure 8a. The brown staining identifies collagen type IV. Coll-e-Derm RT preserves the basement complex (BMC) of blood vessels pre-implantation that allows angiogenesis. Angiogenesis is the physiological process through which new blood vessels form from pre-existing vessels.



Masson's Trichrome

Figure 8b. Masson's Trichrome staining shows robust tissue regeneration is evident for Coll-e-Derm RT at 12 weeks with new collagen formation, revascularization, and host cell repopulation.¹

In direct comparison to AlloDerm[®] Ready-To-Use, Coll-e-Derm **RT** Hydrated demonstrated:¹

- A lower inflammatory response at 4 weeks (Figure 4a, 4b.)
- A significantly lower pro-inflammatory M1 macrophage protein (TNFa) response ($p < 0.05$) at 12 weeks (Figure 6.)
- Lower fibrotic response at 12 weeks (Figure 5.)
- Greater tissue strength and suture retention (Figure 7.)

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Coll-e-Derm™ RT



Coll-e-Derm™ **RT** is a pre-hydrated human acellular dermal matrix with a sterility assurance level (SAL) of 10^{-6} .² It is available in a variety of sizes and thicknesses, and requires a minimal 2-minute sterile soak.²

- ✓ Intact extracellular matrix¹
- ✓ Greater suture retention^{1,3}
- ✓ Retains angiogenin and collagen type IV¹
- ✓ Collagen stability¹
- ✓ Revascularization¹
- ✓ Biomechanical properties similar to native dermis¹

Coll-e-Derm RT is treated with a proprietary, patented and gentle decellularization process which retains structural integrity, mechanical strength, and collagen stability similar to native dermis. Coll-e-Derm RT retains angiogenin and collagen type IV that may play a role in supporting revascularization.

Coll-e-Derm™ **RT**, Meshed, Hydrated (0.4 - 0.8 mm)

Product Number	Description	Size	Q Code
ACDMHY0404RT	Coll-e-Derm RT Patch, Meshed	4x4	Q4193
ACDMHY0408RT	Coll-e-Derm RT Patch, Meshed	4x8	Q4193

Coll-e-Derm™ **RT**, Thin, Hydrated (0.63 - 1.48 mm)

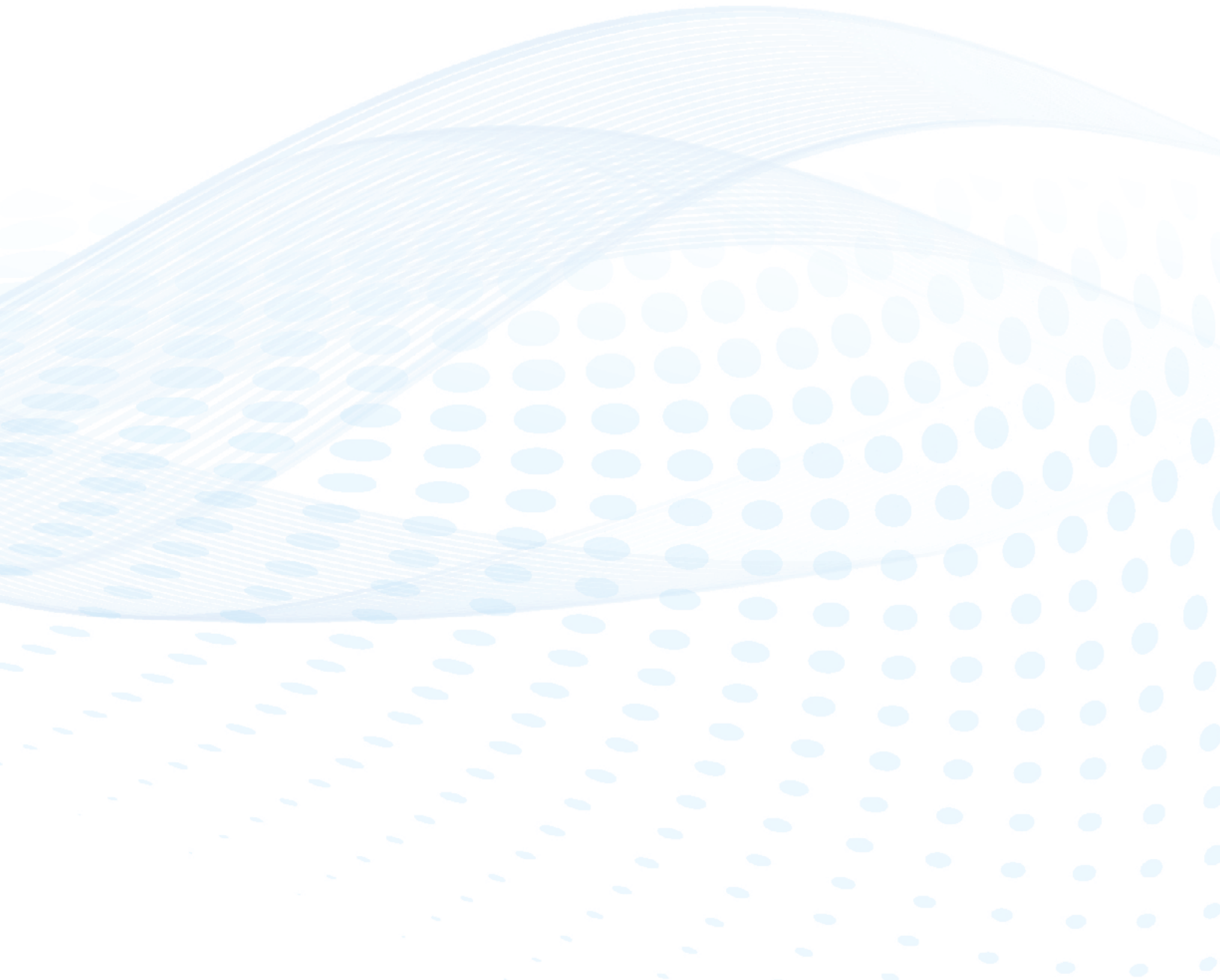
Product Number	Description	Size	Q Code
ADTHY0101RT	Coll-e-Derm RT Patch, Thin	1x1	Q4193
ADTHY0102RT	Coll-e-Derm RT Patch, Thin	1x2	Q4193
ADTHY0104RT	Coll-e-Derm RT Patch, Thin	1x4	Q4193
ADTHY0202RT	Coll-e-Derm RT Patch, Thin	2x2	Q4193
ADTHY0204RT	Coll-e-Derm RT Patch, Thin	2x4	Q4193
ADTHY54RT	Coll-e-Derm RT Patch, Thin	5x4	Q4193

Coll-e-Derm™ **RT**, Medium, Hydrated (0.90 - 1.99 mm)

Product Number	Description	Size	Q Code
ADMHY0307RT	Coll-e-Derm RT Patch, Medium	3x7	Q4193
ADMHY0407RT	Coll-e-Derm RT Patch, Medium	4x7	Q4193
ADMHY0412RT	Coll-e-Derm RT Patch, Medium	4x12	Q4193
ADMHY0416RT	Coll-e-Derm RT Patch, Medium	4x16	Q4193
ADMHY54RT	Coll-e-Derm RT Patch, Medium	5x4	Q4193
ADMHY105RT	Coll-e-Derm RT Patch, Medium	5x10	Q4193

Coll-e-Derm™ **RT**, SCR, Hydrated (3.00 - 3.50 mm)

Product Number	Description	Size	Q Code
SCRHY543RT	Coll-e-Derm RT Patch, SCR	5x4	Q4193
SCRHY473RT	Coll-e-Derm RT Patch, SCR	4x7	Q4193



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