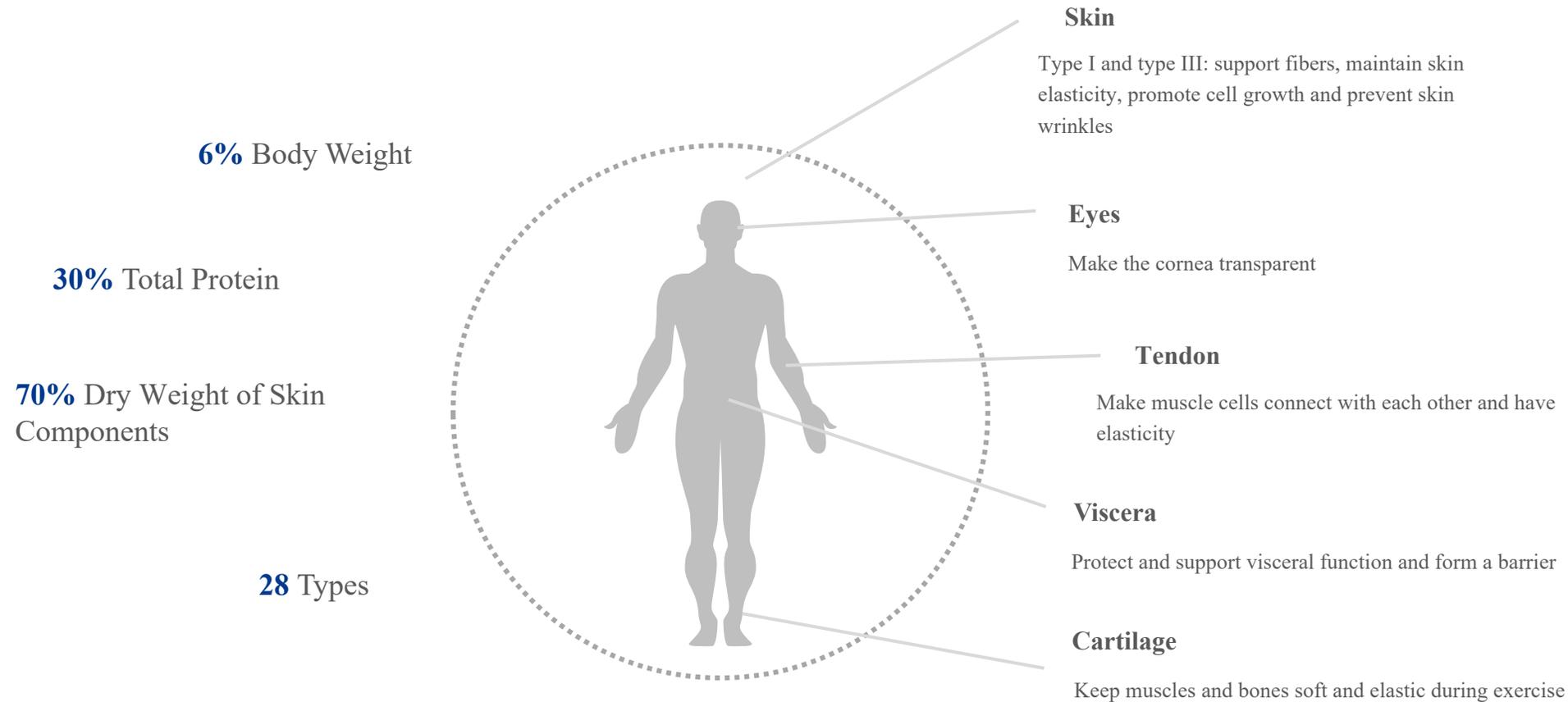


Collagen

Repair & Regeneration



Bloomcolla™ Recombinant Human Collagen III



Bloomcolla™ Recombinant Human Collagen III is obtained by yeast synthetic biology using recombinant technology. It is 100% homologous to the selected functional amino acid sequence of human collagen III with high activity. Collagen III plays an important role in the repair and healing of skin and mucosal wounds, inhibiting scar formation, improving skin problems, enhancing skin elasticity and tenderness, etc.

Applications of Bloomcolla™

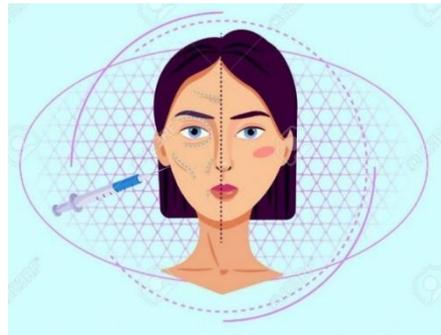
Bloomcolla™ can promote cell migration and stimulate angiogenesis and cell proliferation, thus promoting wound healing.

It can stimulate the formation of dermis and basement membrane, and regulate the expression of growth factors, thereby preventing hypertrophic scars.

It can favor the survival and growth of fibroblasts and induce the regeneration of collagen.



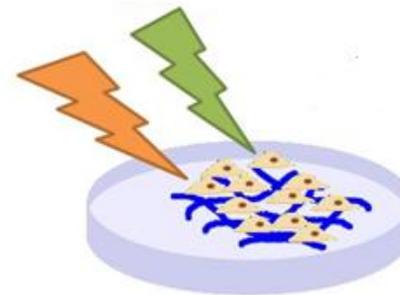
Wound repair & healing
Hemostatic



Skin Rejuvenation



Aesthetics



Tissue Engineering



Ulcer treatment



Bloomcolla™

Recombinant Human Collagen III

Repair & Regeneration

Application

- Wound Repair & Healing
- Skin Rejuvenation
- Aesthetics
- Ulcer Treatment



Item	Bloomcolla™ Recombinant Human Collagen III Sponge MS1 (Medical Grade)
Application	Wound repair & healing Skin Rejuvenation Tissue Engineering Ulcer treatment
Recommended Dosage	0.05%~10%

Safe

- ✓ Yeast expression system, a safe receptor
- ✓ No animal immunogenicity
- ✓ Good biocompatibility, low endotoxin level

Efficient

- ✓ Wound healing and Prevent Scar
- ✓ Promote injury repairing
- ✓ Promote collagen fiber formation

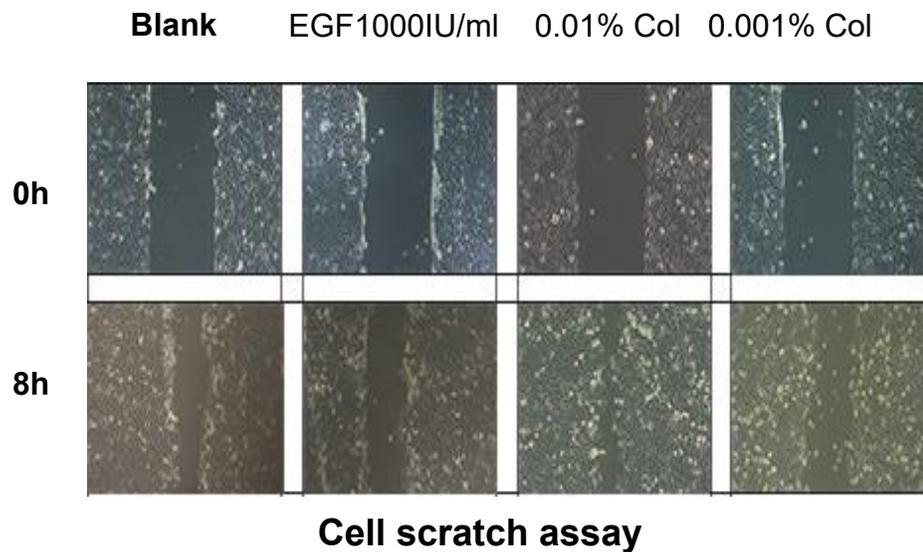
Safety Evaluation *Bloomcolla™ is Safe*



Test Content	Test Results	Test Content	Test Results
Genotoxicity	Negative	Stimulation	No eye irritation
Reproductive toxicity	No reproductive toxicity		No oral irritation
In vitro cell cytotoxicity	No cytotoxic response		No rectal irritation
Delayed hypersensitivity (sensitization)	No delayed hypersensitivity reaction		No penile vaginal irritation
Stimulation	No skin irritation	Systemic toxicity test	No acute systemic toxicity
	No intradermal reaction	Subchronic toxicity test	No subchronic toxicity

Tested as per GB / T 16886 Biological Evaluation of Medical Devices (equal to ISO 10993)

Promote injury repairing

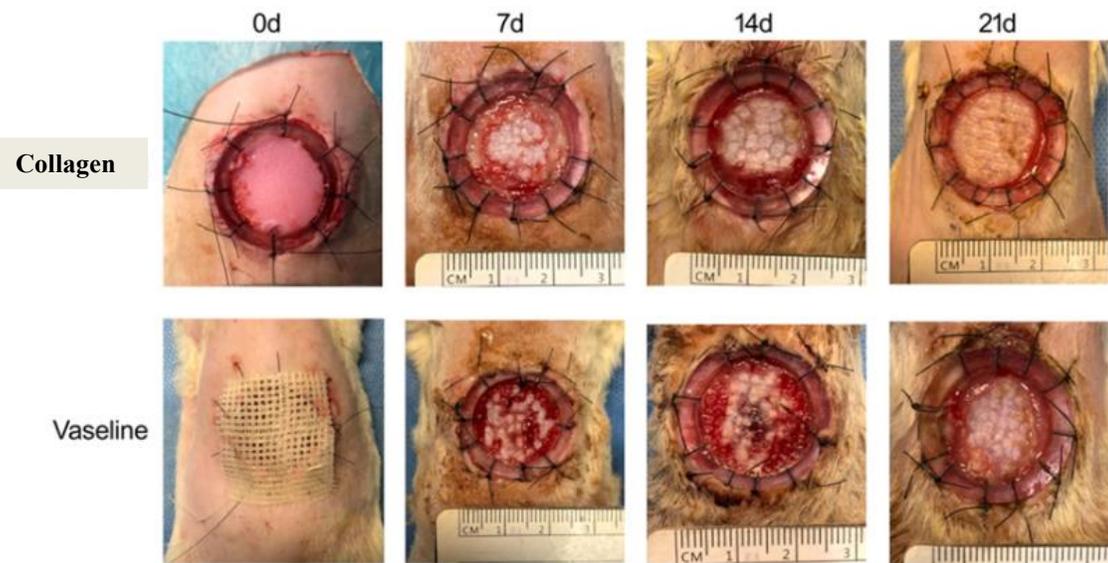


Sample	Healing rate
EGF	59.8%
0.001% Bloomcolla™	42.2%
0.01% Bloomcolla™	78.3%
Blank control	48.7%

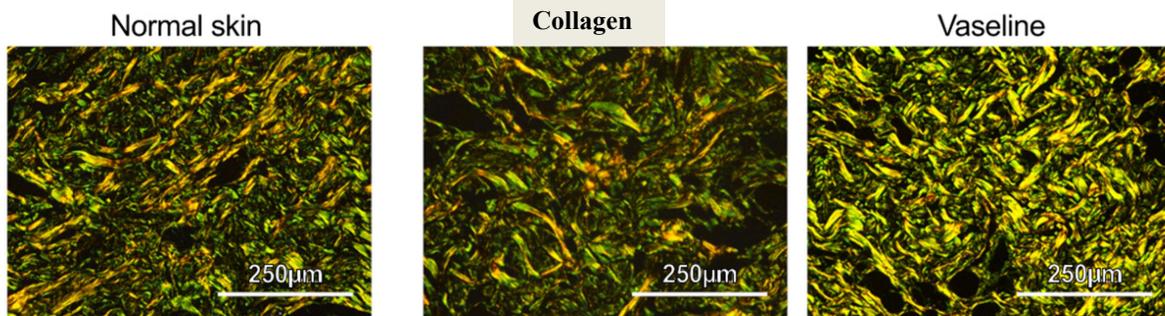
Conclusion

HaCaT cell migration test (in vitro) shows Bloomcolla™ has an obvious promoting effect on cell migration, suggesting its repairing function of tissue injury.

Wound healing and Prevent Scar



Representative images of full-thickness wounds during 21days



Collagen type-I and -III examined by PR staining
(bright red or yellow: Collagen I; green: Collagen III)

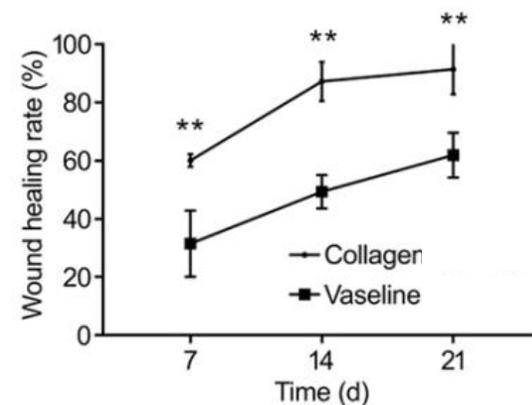
Experiment:

Rats with circle wound (diameter: 20mm; thickness: 0.8 mm) treated by below groups (12 per group):

Bloomcolla™ group: Collagen

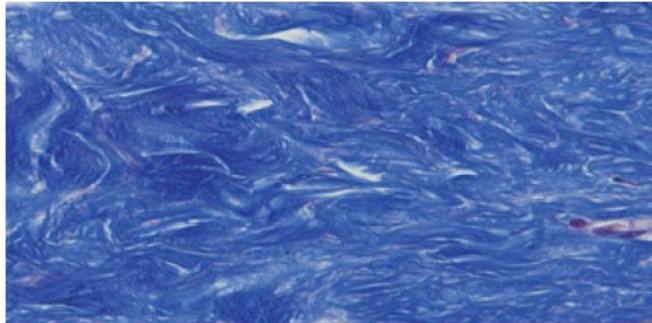
Control group: Vaseline

Period: 35 days

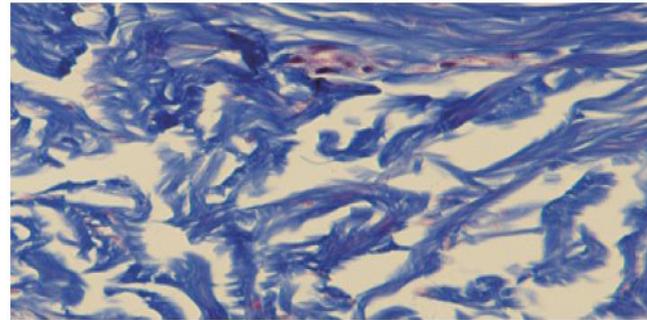


Healing rate: $91.46\% \pm 8.62\%$, vs $61.96\% \pm 7.64\%$ at day 21.

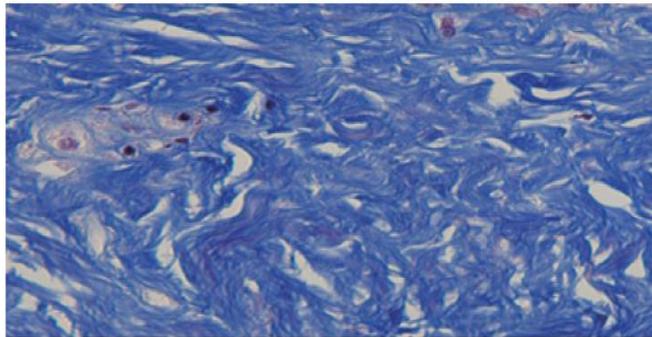
Promote collagen fiber formation



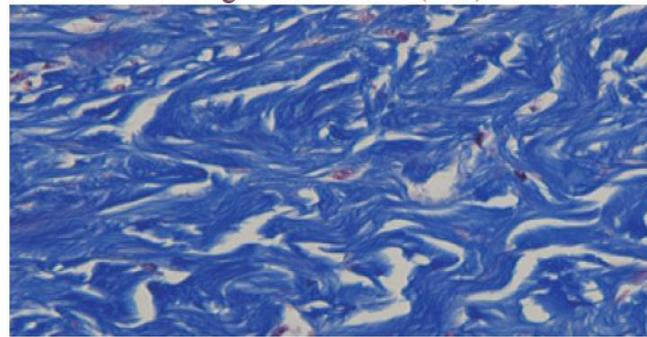
Blank control



Negative control (UV)



Positive control (UV + VC 100 $\mu\text{g}/\text{mL}$ + VE 7 $\mu\text{g}/\text{mL}$)



UV + 0.2% BloomCollaTM

Masson Trichrome Stain Test with Human Skin Model
Blue-purple staining area: collagen fiber

Experimental result

Negative control vs Blank control: stimulation conditions are effective.

Positive control vs Negative control: the positive control test was effective.

0.2% BloomcollaTM group:

collagen fiber content is increased significantly.