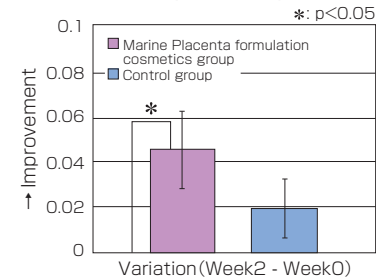


Marine Placenta is products that are extracted and purified from salmon ovary membrane using an innovative method developed by Nippon Barrier Free.

Marine Placenta is a raw material used in cosmetics and quasi-drugs. It has a low molecular weight, and contains amino acids and mucopolysaccharide.

Skin(Skin elasticity)

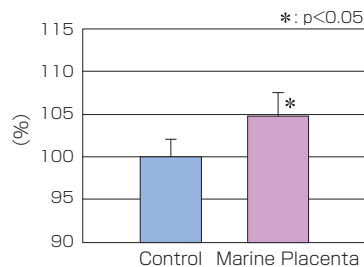
Skin elasticity[Suction recovery rate] (variation)



Test duration : 2 weeks
Percentage of active ingredient : 1%
Number of people : 12 people in each group
(women aged 40 ± 2 years, double blind method)
Measurement : Cutometer

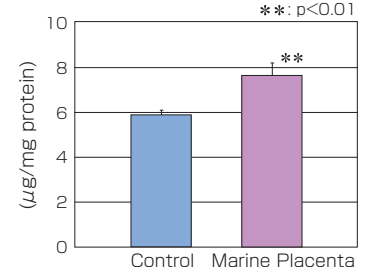
Cell activation test using human dermal fibroblast

Activation of human dermal fibroblasts



Type I collagen synthesis

Accelerating action on type I collagen synthesis in human fibroblasts



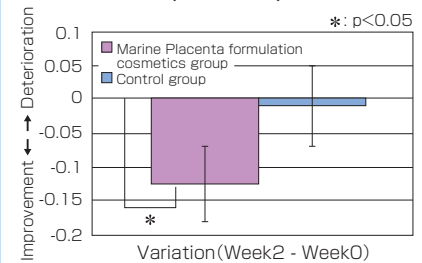
Skin(Change in pores, wrinkles and stains)

	【Pores】	【Wrinkles】	【Stains】
	M13 Visibly dark pores	M13 Visibly dark pores	M13 Very noticeable stains
start	 352	 Total length 50mm / total surface area 103mm ²	 5 / 13mm
After 2 weeks	 47	 Total length 40mm / total surface area 0mm ²	 1 / 4mm

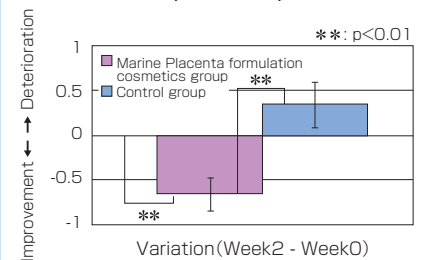
Test duration : 2 weeks and 8 weeks
Percentage of active ingredient : 1%
Number of people : 12 people in each group (women aged 40 ± 2 years, double blind method)
Measurement : Robo skin analyzer

Skin(Change of texture)

Texture coefficient [mid-cheek area] (variation)



Texture score [mid-cheek area] (variation)



Test duration : 2 weeks
Percentage of active ingredient : 1%
Number of people : 12 people in each group
(women aged 40 ± 2 years, double blind method)
Measurement : Direct skin sensor

◎Safety Data

- Skin primary irritation test • Two-week continuous skin irritation test
- Eye irritation test • Skin sensitization test • Reverse mutation test
- Human skin irritation test • Single oral dose toxicity test • Photosensitivity test • Phototoxicity test • Chromosome aberration test

◎Evidence

- Skin test (skin elasticity, texture, dark pores improvement etc.)
- Test of hair growth (promotion of hair growth)
- Cell activation test using human dermal fibroblast
- Type I collagen synthesis test using human dermal fibroblast
- Antioxidant action

◎Patent

- Cosmetic (Patent No. 3981397: Japan)
- Histamine release inhibition (anti-allergic effect)
- Cosmetic (Patent No. 4005113: Japan)
- Melanin production inhibition (whitening)
- Hair restorer (Patent No. 4643754: Japan)
- Dark pore improving agent (Patent No. 4792588: Japan)
- Cosmetic (Patent No. 10-1450681: Korea)
- suppression of histamine release, suppression of melanin production, improvement of dark pores, increase of sebum
- Cosmetic (Patent No. ZL 2007 1 0302064.7: China)
- inhibition of histamine release, inhibition of melanogenesis, darkening of pores

Marine Placenta is a registered trademark of Nippon Barrier Free Co., Ltd.

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* Please follow the related laws and regulations when displaying or advertising cosmetics that contain our products.

- The Science of Salmon™ - Nippon Barrier Free Co., Ltd.

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