



EM PROTEIN

Hydrolyzed Eggshell Membrane

Kewpie Corporation

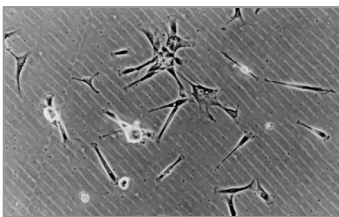
“EM PROTEIN” is a hydrolyzed egg shell membrane, which is made from fresh egg shell membrane and made as soluble in water by our original production method (patented) .

Egg shell membrane is a thin inside skin of egg shell and has been used to cure wound for centuries . It already appeared in “Honzou-koumoku” , a corpus of traditional Chinese medicine compiled in 16th century .

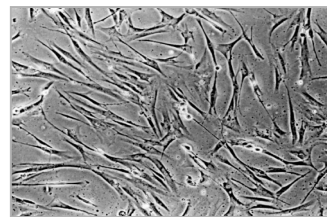
We have two types of EM PROTEIN, powder type (EM PROTEIN-P) and liquid type (EM PROTEIN-L) .

EXCELLENT FEATURES OF EM PROTEIN

EM PROTEIN has high affinity to human cells and bonds human dermal fibroblasts together, also proliferates them. (Refer to the test result of human dermal fibroblast incubation shown below.)



Non treated



Coated with EM PROTEIN (0.1 μ g/cm²)

EM PROTEIN acts on human dermal fibroblasts to promote production of type I collagen . Human skin has two types of collagen, one is type I collagen which forms heavy fibers to support tissue structure, the other is type III collagen which forms fine fibers to give tissue flexibility . Fetus and baby's skin are rich of type III collagen, which however are decreasing as aging .

EM PROTEIN-L is an easy-to-use liquid type product (1% solution of EM PROTEIN-P) while EM PROTEIN-P is convenient for storage (under room temperature) .

STABILITY AND SAFETY

STABILITY

- Heat stability Neither 5% aqueous solution of EM PROTEIN-P nor EM PROTEIN-L produces sediments or causes turbidity when they are heated to 90 °C for 8 hours .
- Solubility EM PROTEIN-P dissolves in water up to 30%. It is stable at 5% solution with 50% ethanol, 90% propylene glycol or 65% 1,3-butylene glycol .
- pH EM PROTEIN is stable in neutral to alkaline phase. At pH 3~6 it may become cloudy by iso-electric precipitation. Salt (sodium chloride, sodium citric acid etc.) helps improve pH stability of EM PROTEIN.

SAFETY

No abnormality was observed by closed patch human primary skin irritation test , skin sensitization test with guinea pig nor eye irritation test and primary skin irritation test with rabbit .

U S E

Raw material for wide range of cosmetics , like saving skin from aging or facial pack and facial wash cream .

SPECIFICATIONS AND A TYPICAL ANALYSIS

EM PROTEIN-P

	Specifications	Analysis
pH	6.5 ~ 8.5	7.3
Heavy Metals	NMT 20 ppm	NMT 20 ppm
Arsenic	NMT 2 ppm	NMT 2 ppm
Loss On Drying	NMT 10.0 %	2.8 %
Residue on Ignition	NMT 12.0 %	6.8 %
Assay	NLT7.0% (as Nitrogen)	14.6 %
Aerobic plate counts	NMT 100 / g	NMT 10 / g
Coliforms	Negative / g	Negative / g
Mold And Yeast	NMT100 / g	NMT10 / g

EM PROTEIN-L

	Specifications	Analysis
pH	6.5 ~ 8.5	7.3
Heavy Metals	NMT 20 ppm	NMT 20 ppm
Arsenic	NMT 2 ppm	NMT 2 ppm
Residue on Ignition	NMT 1.0 %	0.1 %
Assay	0.1 ~ 0.3% (as Nitrogen)	0.2 %
Aerobic plate counts	NMT 100 / g	NMT 10 / g
Coliforms	Negative / g	Negative / g
Mold And Yeast	NMT100 / g	NMT10 / g

COMPOSITION

EM PROTEIN-P

Ingredient Name	INCI Name	Composition
Hydrolyzed Egg Shell Membrane	Hydrolyzed Egg Shell Membrane	100 %

* This conforms to "Hydrolyzed Egg Shell Membrane" in The Japanese Standards of Quasi-drug Ingredients.

EM PROTEIN-L

Ingredient Name	INCI Name	Composition
Purified Water	Water	68.9 %
1,3-Butylene Glycol	Butylene Glycol	30.0 %
Hydrolyzed Egg Shell Membrane	Hydrolyzed Egg Shell Membrane	1.0 %
Methyl parahydroxybenzoate	Methylparaben	0.1 %

* Liquid containing 1% of EM PROTEIN-P.

STORAGE AND EXPIRY

Storage

EM PROTEIN-P : Store at ordinary temperature and keep it away from direct sunlight and high temperature. Avoid humidity.

EM PROTEIN-L : Store at 1 ~ 10 . Freezing strictly prohibited . .

Expiry

EM PROTEIN-P : 3 years from the manufacturing date. (unopened, at ordinary temperature)

EM PROTEIN-L : 2 years from the manufacturing date. (unopened, at 1 ~ 10)

PACKING

EM PROTEIN-P : 100g (in aluminum pouch with poly inner bag) × 1 ~ 10 = 1 carton

EM PROTEIN-L : 1 kg (in poly bottle/inner carton) × 1 ~ 10 = 1 carton



Kewpie Corporation Fine Chemical Division

4-13,1-Chome,Shibuya,Shibuya-ku,Tokyo,Japan 150-0002
Tel:81-3-3486-3338 Fax:81-3-3486-4640