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COLLAFIBE SACHETS: Contains New Advanced Liposomal Technology Encapsulated with pepzyme pro to boost collagen peptide Absorption to support hydration & Elasticity of skin.

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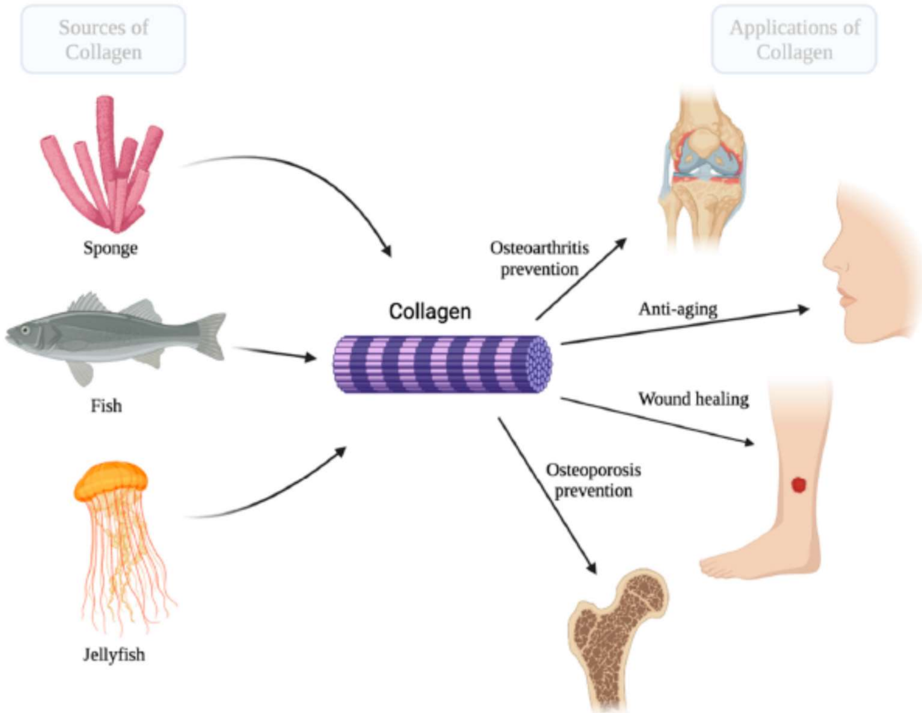
ABSTRACT

it is evident that marine collagen in collafibe sachets is a versatile compound capable of healing skin injuries of varying severity, as well as delaying the natural human aging process. From in vitro to in vivo experiments, collagen has demonstrated its ability to invoke keratinocyte and fibroblast migration as well as vascularization of the skin. Additionally, marine collagen and derivatives have proven beneficial and useful for both osteoporosis and osteoarthritis prevention and treatment. Other bone-related diseases may also be targeted by collagen, as it is capable of increasing bone mineral density, mineral deposition, and importantly, osteoblast maturation and proliferation. Marine organisms harbor numerous bioactive substances .Scientific research on various applications of collagen extracted from these organisms has become increasingly prevalent. Marine collagen in collafibe sachets can be used as a biomaterial because it is water soluble, metabolically compatible, and highly accessible.
The present Article Reviews the role of collafibe sachets in Improving cell turnover and collagen formation, which keeps your skin stay elastic and healthy.

Keywords: Collafibe Sachets, Glowing Skin, Healthy Hairs, Nails



Technical advancements in collafibe sachets

Liposomal Technology: Vitamin C and Glutathione
Pepzyme Pro boosted Marine Collagen with Peach Extract,
Cold Water Soluble Vitamins

INTRODUCTION

The UVR that affects the skin is composed of two types of waves: UVA and UVB. UVB rays are shorter than UVA rays, and are the main cause behind inflammation and melanin production. However, it is the UVA rays, with their longer wavelength, that are responsible for much of the damage associated with photoaging. UVA rays penetrate deep into the dermis, where they damage collagen fibers, leading to wrinkle formation.

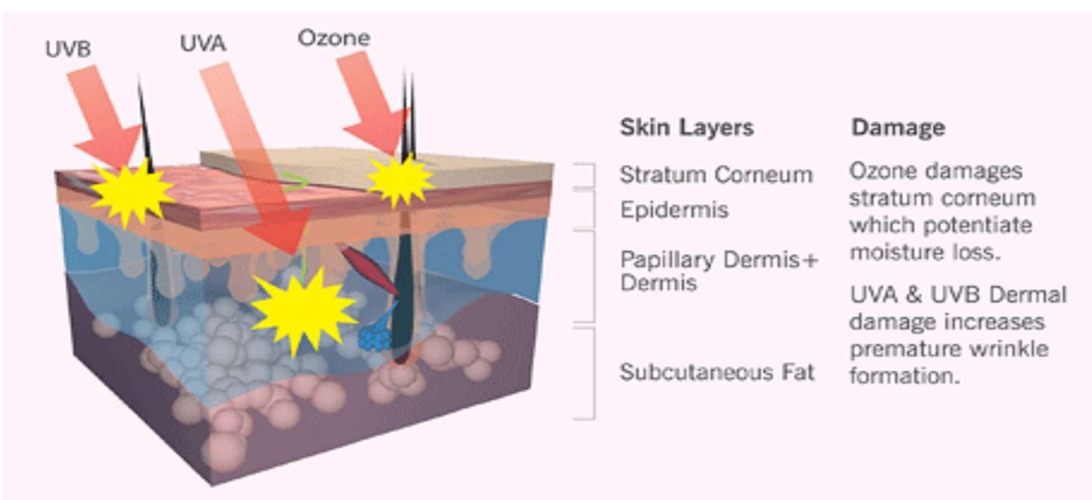


Fig 1: Reduces wrinkles & increase elasticity

UV rays induce the production of in situ radical oxygen species (ROS) and matrix metalloproteinases (MMP). These factors are the root of wrinkle formation because they destroy the collagen matrix in the dermis. Fortunately, the skin's repair mechanism will rebuild the damage collagen. However, the hindrance of skin renewal by repeated exposure to uncontrolled levels of ROS and MMP leads to the formation of wrinkles.

The extracellular matrix (ECM) plays important roles in the physical integrity of cells, where it is involved in cell proliferation, differentiation, migration, and adhesion [1–6].

Collagen is the main structural protein in the ECM and connective tissue of animals. In mammals, collagen protein is highly abundant and mainly localized in the ECM of fibrous connective tissues, such as the tendon and skin [7–10]. It plays key structural roles by supporting the formation, tensile strength, and flexibility of joints [11–15].

Collagen types I, II, III, V, and XI are able to form fibrils that are necessary for structural support and resistance to mechanical stress in connective tissues [16,17]. Type I collagen is the most abundant form and is mainly present in the tendons and skin [18–20].

Collagen has numerous biomedical applications ranging from wound healing, bone and tissue regeneration, and drug delivery (Figure 1) [21,22]. Its accessibility, flexibility, and biocompatibility make it a useful biomaterial in several fields [22–24].

Collagen is a trimeric molecule made up of three polypeptide alpha-chains, forming highly organized three-dimensional structures capable of resisting mechanical stress and supporting the growth of cells [25,26].

Marine organisms such as fish, jellyfish, sponges, and other invertebrates harbor a significant source of collagen and are highly advantageous over other sources, as they are metabolically compatible, lack religious constraints and are free of animal pathogens [27–30].

In fact, fish skins are commonly used for type I collagen extraction, as they are not only immensely abundant but also do not have religious restrictions and are not a risk of disease transmission [31–33]. Land animals possess many transmittable diseases, which makes them less favorable for use in industries. For example, cattle, although a large source of collagen, pose risks for bovine spongiform encephalopathy (BSE) as well as transmissible spongiform encephalopathy (TSE) [29,34,35]. These progressive neurological disorders affect cattle and can result in life-threatening infections in humans [29]. In addition, some religious constraints on the use of bovines for the pharmaceutical and cosmetic industries are up for debate [35]. These factors make marine sources of collagen a much safer, easier, and promising alternative.

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Marine collagen isolated from organisms like fish, jellyfish, and sponges has been implicated several studies on its potential for increasing wound healing rates [36–41]. The processes involve increased fibroblast and keratinocyte migration as well as vascularization and growth [42–44]. In addition to accelerating wound healing, marine collagen has also been shown to have anti-aging properties by slowing the aging process in mice [45–48].

Studies on humans have also shown that marine collagen can reduce wrinkles, improve skin elasticity, and enhance the overall structure and appearance of skin. Furthermore, collagen's ability to regenerate bone has been shown to be successful in rat models of menopausal osteoporosis [49]. Marine collagen is able to increase bone mineral density and osteoblastic activity, serving protective effects against bone degeneration [49–53].

Collagen has also been shown to induce chondrogenic differentiation and prevent the development

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of osteoarthritis (OA) [54,55].

Technical advancements

Liposomal Technology: Vitamin C and Glutathione
Pepzyme Pro boosted Marine Collagen with Peach Extract,
Cold Water Soluble Vitamins
COMPOSITION OF COLLAFIBE SACHETS

Nutritional Facts

Serving Size: 12g **Serving Per Container : 1**

		% ICMR RDA
Energy	31.0 Kcal	*
Total Carbohydrates	–	*
Total Sugar Includes 0g of added sugars	–	*
Protein	4.95 g	*
Sodium	20.1 mg	*
Fish Collagen Peptide Type 1	5.5 g	*
Lycopene 10% powder	5 mg	*
Grape seed extract 95%	10 mg	*
Peach extract	20 mg	*
Betaine Anhydrous (as Trimethylglycine)	20 mg	*
Niacinamide	20 mg	50%
Taurine	50 mg	*
Liposomal Vitamin C (as ascoribic acid) 70%	40 mg	50%
Vitamin E 50 CWS (as Tocopheryl Acetate) 50%	8 mg	80%
Sodium (as Sodium Chloride)	1.2 mg	0.06%
L-Lysine	5 mg	*
Beta carotene 10% Powder	1.2 mg	0.001%
Biotin	25 mcg	83.33%
Selenium (as L- Selenomethionine)	40 mcg	100%
Liposomal Glutathione 40%	250 mg	*

%ICMR RDA are Based on a 2000 calories diet.
***Indian Council of Medical Research Recommended Dietary Allowances Not Established**

Collafibe helps to:
Promote skin elasticity.
Promote skin hydration.
Reduce stretch marks.
Reduce visible cellulite.
Reduce dark spots.
Minimizing wrinkles and fine lines.
Protect from sun exposure.
Improve cell turnover and collagen formation, which keeps your skin stay elastic and healthy.

Collafibe sachets in Wound Healing and Anti-Aging

Our skin epidermis is the most important innate defense barrier against all pathogens and plays a significant role in tissue homeostasis [56–58]. Skin injuries are difficult to treat yet are becoming increasingly common as a result of burns, infections, scarring, genetic disorders, and other diseases [59,60]. Treatments aim to restore the integrity of the tissue, involving processes such as inflammation, cell division, differentiation, and vascularization.

Endothelial permeability enables cell adhesion, which is followed by cell differentiation and maturation [61,62]. Marine collagen has been shown to be an effective biomaterial for wound healing. Collagen can be utilized in various formulations, such as the use of collagen peptides and hydroxylates, or collagen fibers, and scaffold-like structures [44,63].

Marine collagen peptides are produced from collagen through both chemical and enzymatic hydrolysis, and their smaller molecular weight increases their water solubility, making them more absorbable [63,64]. Hu et al. used an in vitro scratch assay to demonstrate that marine collagen peptides improve wound closure at concentrations of 50 _g mL□1 starting at 12 h post-treatment with collagen [63].

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Wang et al. found that marine collagen peptides (MCPs) isolated from salmon skin significantly improved skin wound tensile
strength in rats [42].

The Potential Role of Collafibe sachets in Bone and Cartilage Regeneration

Marine collagen sources serve not only as a promising avenue for healing skin injuries but also for bone-related trauma and regeneration. Bone fracture repair and healing is a form of tissue regeneration and is a complex process involving bone formation and breakdown [90,91]. Often, patients present with conditions that require reconstruction of large bones as a result of genetic abnormalities, trauma, infection, and tumors [92]. There is an increasing demand to improve methods of bone repair and regeneration, such as functional bone grafts [93].

Marine collagen bioactive peptides are known to aid in the absorption of calcium and zinc, which are important components of bone and are beneficial for osteoporosis prevention [94,95]. A study performed by Xu et al found that marine collagen peptides isolated and derived by hydrolysis from chum salmon increased serum osteocalcin in treated rats compared to controls.

Osteocalcin is a protein hormone secreted by osteoblasts and plays a role in bone maintenance and regeneration through interaction with calcium. The study also found that bone organic matrix, density, femoral length, and femur mineral ions were significantly higher in the collagen-treated group than in the controls [94].

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The study also found that bone organic matrix, density, femoral length, and femur mineral ions were significantly higher in the collagen-treated group than in the controls [94]. It was hypothesized that the increase in bone mineral density was likely due to increased osteoblast activity, as seen by the increase in bone size and serum osteocalcin [94]. These results shed light on the potential collagen peptides involved in mineral deposition, bone matrix development and an increase in osteoblastic activity, which strongly suggests that collagen is a promising biomaterial for the prevention and treatment of osteoporosis [94].

Osteoporosis and net bone loss are prevalent among aging women going through menopause resulting from estrogen deficiency [49]. Nomura et al. demonstrated that 20 mg of collagen isolated from shark gelatin also increased the bone mineral density of the spongy bone in rat models of menopausal osteoporosis [49].

Furthermore, the biological effect of marine collagen on rat-derived bone marrow stem cells has also been demonstrated. Liu et al. showed that 0.2 mg/mL collagen isolated from fish promoted cell survival and upregulated the expression of several osteogenic and endothelial markers [50].

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