RSL REVOLUTIONARY LABS

WHITE PAPER

RSL Revolutionary Labs is an EU-based biotech company that was created with a vision to combine natural ingredients and innovative biomaterials with state of the art formulations to offer solutions for oncology patients. RSL comes in to fill an unmet need for oncology patients, as available options for skin care management in cancer patients are still quite limited and products that are available are not effective or may contain harmful chemicals.

After years of research, expert scientific knowledge and with nature's most exquisite ingredients, RSL has created the **εὖSKIN®** line of products, to nourish and support the skin against the side effects of cancer treatment.

THE NEED

In recent years, the management of cancer as a complex disease has seen advancements through the emergence of novel chemotherapeutic agents, targeted biological therapies, and radiation protocols, which have contributed to an overall enhancement in the survival rates of oncology patients.

However, these treatments frequently result in undesirable cutaneous side effects, leading to both physical and psychological distress, and substantially impeding patients' quality of life. Therefore, the improvement of patients' quality of life has become an essential therapeutic objective in modern cancer management.

THE PROBLEM

Dermatological side effects, such as skin rash, from oncology treatments (radiotherapy, brachytherapy, immunotherapy, and chemotherapy) is probably the most common side effect that can affect patients' quality of life as well as possible termination of their treatment.

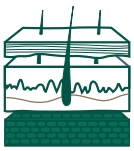
According to international literature data[1], 95% of patients with breast, skin and head cancer who undergo radiation therapy manifest radiation dermatitis (skin damage caused by radiation during radiation therapy). Therefore, the skin around the irradiated area may experience pain, erythema and even dry or wet scaling.

It is estimated that nearly 85%-90% of patients receiving radiation therapy will experience a moderate to severe skin reaction, with the most common side effect being radiation dermatitis. Several factors appear to influence the severity, onset, and duration of skin reactions.

In acute actinic dermatitis there is erythema, edema, inflammation, cell apoptosis and necrosis. Erythema is due to inflammation caused by the dilation of superficial vessels and is a result of the concentration of immune system cells and the cytokines they produce[2].The Radiation Therapy Oncology Group (RTOG) grading of acute radiation dermatitis describes four grades of skin reaction[3],from simple erythema to skin ulceration and necrosis[4].Measures to prevent and treat radiodermatitis include preparation and adequate hydration of the skin in the treatment area using moisturizing products.

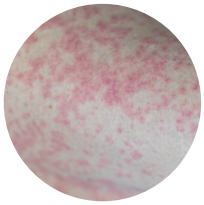
THE SOLUTION

Regrettably, to date, the availability of specialized products catering to the unique requirements of oncology patients has been either scant or altogether absent. In response, we have developed a series of specialized products utilizing natural ingredients and innovative biomaterials to fulfill the specific needs of individuals undergoing oncological treatment and enhance their overall quality of life.



Radiotherapy
Chemotherapy
Hormone therapy
Immune therapy & Biologicals

Common skin conditions during oncological treatment

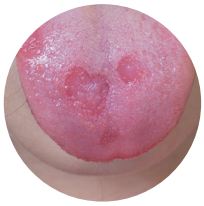


Skin inflammation
(bumps, tags and rashes)

Oncology treatments can cause skin irritation and inflammation by different routes, such as damaging the rapidly dividing skin cells, therefore inducing an inflammatory response. These may lead to skin inflammation which refers to a state where the skin becomes red, swollen and itchy. It is a natural mechanism that aids in combating harmful pathogens and healing[5].

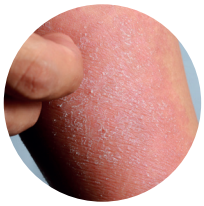
Cracked nails – Brittleness

Oncology treatments can have an impact on the quickly dividing cells in the nail matrix, leading to various alterations in the nails. These changes often manifest as brittle, dry, and fragile nails, accompanied by cuticles that are more susceptible to cracking and splitting. Patients undergoing oncology treatments have frequently reported experiencing these nail-related issues[6]. The primary reason behind nail brittleness and cracked nails is attributed to the breakdown of the intercellular cement substance that binds the horny lamellae of the nail together. As a result, the nails tend to split in layers, often starting from the free edge. These nail alterations are among the potential side effects that patients undergoing oncology treatments may encounter[7].



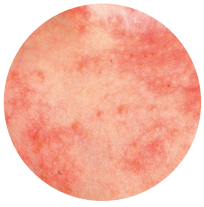
Stomatitis – Oral mucositis
(oral blisters, difficulty in ingestion)

Stomatitis, a frequent adverse effect of chemotherapy, is marked by inflammation and tenderness in the mouth or the mucous membranes that line the oral cavity. Its symptoms encompass pain, redness, swelling, and the formation of mouth sores or ulcers[8]. Oral mucositis is distinguished by the presence of red and ulcerative lesions on the oral mucosa, which can cause considerable pain and may negatively impact nutrition and oral hygiene. Additionally, these lesions heighten the risk of both local and systemic infections[9].



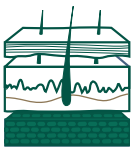
Atopic dermatitis
(itchiness, sores)

Patients undergoing oncology treatments frequently encounter a compromised immune system, making them more susceptible to skin infections, including atopic dermatitis. Atopic dermatitis is an inflammatory skin disorder characterized by itchy skin lesions. It is a prevalent condition that exhibits eczematous lesions and intense itching, significantly impacting the patient's quality of life[10].



Eczema

Eczema, also known as Atopic dermatitis, is a prevalent chronic and recurrent condition marked by pruritus and a disruption of the epidermal barrier function[11]. This skin condition leads to inflammation, irritation, and redness[12].



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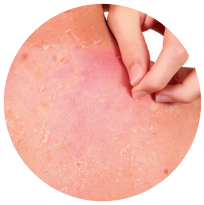


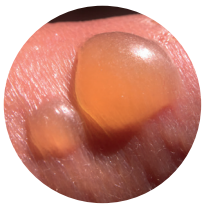
Radiation dermatitis

Radiation therapy frequently leads to radiation dermatitis, a condition that affects a significant proportion of patients undergoing treatment, with rates reaching up to 85%. This condition can result in moderate-to-severe skin reactions, characterized by distinct changes like swelling, redness, pigmentation disturbances, and tissue necrosis[13]. Radiation dermatitis can present as acute erythema and peeling, or as chronic effects, including skin thinning, visible blood vessels (telangiectasias), and fibrosis[14]. Acute radiation dermatitis appears as skin lesions caused by ionizing radiation and typically emerges within days or weeks after treatment, while chronic radiation effects may manifest months or even years after radiation therapy. The impact of radiation therapy on healthy tissues is evident in cell death, particularly noticeable in regenerating tissues like the epidermis and mucosal epithelia[15].

Radiation dermatitis can manifest as acute erythema and desquamation, or as chronic effects including skin atrophy, telangiectasias, and fibrosis[1]. Chronic radiation can be observed months or years after the radiation therapy unlike acute radiation that can be seen days or weeks after the treatment. The effect of radiation therapy has on healthy tissues can be even seen by cell death and it is easily shown on renewing tissues like the epidermis and mucosal epithelia[4].

Acute radiation dermatitis

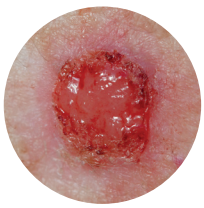
It is a common adverse effect in patients receiving radiotherapy. It can be observed as a burn injury of which the severity may vary according to the treatment and factors related to the patient. The burn injury may resolve weeks after its appearance but there were cases where the reaction persisted and caused complications to the treatment[16]. A variation of acute radiation dermatitis may be observed, known as radiation recall which is an acute inflammatory reaction usually focused in the area of the previous radiation. Drug agents that treat cancer seem to trigger the phenomenon[17].



Chemotherapy extravasation

(leaking of chemo drugs in the skin & wounds)

Chemotherapy extravasation is when chemotherapy drugs leak into the surrounding tissue instead of entering the intended vein. This can lead to symptoms such as pain, swelling, redness, blistering or even ulcers in the affected area and can cause damage to the surrounding tissues[18].



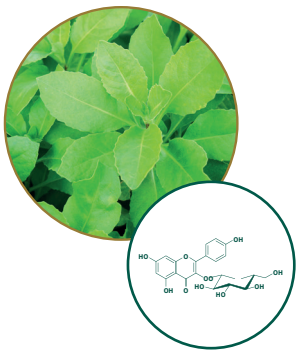
Malignant wounds

(tumors breaking through the skin)

Malignant wounds are chronic wounds that occur when cancer cells invade and destroy healthy skin or underlying tissues. These wounds are usually ulcers that may be accompanied by pain or discharge of fluid[19].

Nature's ingredients

The choice of every bioactive component has been made meticulously, with a thorough consideration of scientific evidence.

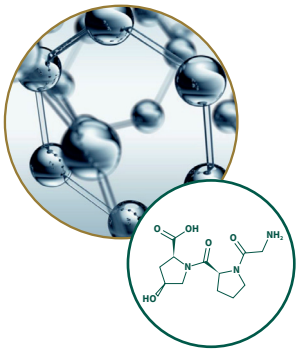


Gynura procumbens

source of natural antioxidants
(phenolic compounds)

Due to its high phenolic content, it protects the skin from free radicals and environmental aggressors[22].

Gynura procumbens is a medicinal plant commonly found in tropical Asia. It is known for its antibacterial, antifungal, anti photoaging and antioxidant abilities. Antioxidants are known for their protective effect on the skin as they protect it from oxidative damage. Researches have shown that due to the high percentage of phenolic compounds found in Gynura procumbens, it exhibits natural antioxidant activity[22], therefore making it a powerful natural antioxidant for the skin. Previous studies have shown that UV irradiation induces degradation of collagen in the skin[23]. Researches have shown that properties of Gynura procumbens inhibit the expression of the proteins responsible for the degradation of collagen induced by UV irradiation[24].



Collagen peptides

rich in Gly-Pro-Hyp
(amino acids)

Collagen has been shown to improve healing chronic wounds in randomised clinical trials[25].

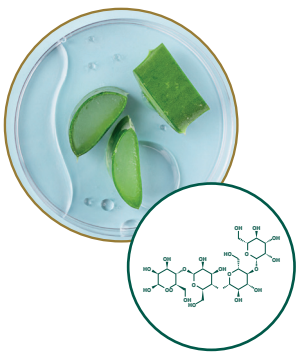
Collagen is the unique, triple helix protein molecule, which forms the major part of the extracellular dermal matrix (ECM) of the dermis in the skin. Together with the glycosaminoglycans, proteoglycans, laminin, fibronectin, elastin and cellular components are responsible for fibroblast migration, survival and metabolism[26]. Collagen type I, II and III acts as a scaffold in connective tissue that is deposited early in wound healing by the fibroblasts to help with the wound healing progress[27-28]. Marine derived collagen I has been previously shown to promote wound healing in wound models and clinical studies[29-31].

Ganoderma lucidum

excellent anti-inflammatory
(triterpenes)

Ganoderma lucidum has been shown to potentially inhibit inflammatory skin conditions and promote keratinocyte proliferation[32].

Ganoderma lucidum has numerous pharmacological and therapeutic properties that make it an excellent antiallergic, antioxidant, antitumor, antiviral, and antiinflammatory ingredient[33]. Terpenoids and polysaccharides in Ganoderma, are being extensively studied for their antimicrobial properties on skin as it has been shown that they act on the bacterial cytoplasmic membrane[34]. Polysaccharides isolated from Ganoderma show an antioxidant activity and protect tissues from reactive oxygen species toxicity[35]. In addition, extracts of Ganoderma show anti inflammatory activity as it has been shown to suppress cytokines responsible for inflammation such as IL-6[36].



Aloe vera

rich in vitamins and minerals
(glucomannan)

Glucomannan has demonstrated anti-inflammatory, tissue regeneration acceleration, and antibacterial properties[37].

Aloe vera has been used for centuries to treat skin injuries such as burns and eczemas because of its anti-inflammatory[38], antimicrobial[39] and wound healing properties[40]. The active ingredients found in the aloe vera leaf extract consist of tocopherols, organic acids, fatty acids, sugars - mannan, and phenolic compounds. Even though polysaccharides are the main constituent of aloe vera it was shown that the biological activity of aloe vera are a result of a synergistic action of a variety of compounds[37]. In a clinical study performed on 60 Head and Neck cancer patients undergoing radiotherapy as a treatment it was shown that aloe vera delayed radiation induced dermatitis[41].

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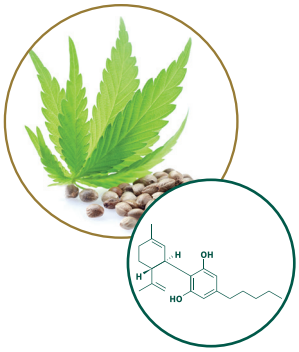
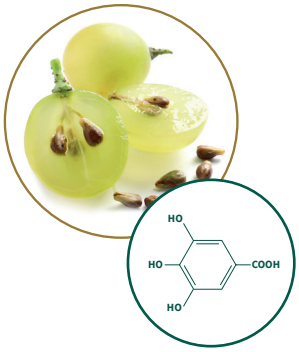


Cannabis seed oil

rich in cannabidiol
(cannabidiol)

A valuable source of biologically active substances that reduce oxidative stress, inhibit skin aging processes and positively affect the viability of skin cells[42].

Cannabinoids and endocannabinoids are pharmacologically active ingredients produced by cannabis sativa. Humans have an endocannabinoid system that is used to regulate several processes i.e. the production of proteins[43]. Over 200 terpenoids are identified in C.sativa, and those are associated with medicinal properties such as antimicrobial, antioxidant and anti-inflamatory amongst other[44].Cannabis sativa seed extract impedes the mediators of inflammation that occur during wound healing[45]. Cannabis sativa extract, also known as hemp extract is a valuable source of biologically active substances that reduce oxidative stress, inhibit skin aging processes and positively affect the viability of skin cells[42].

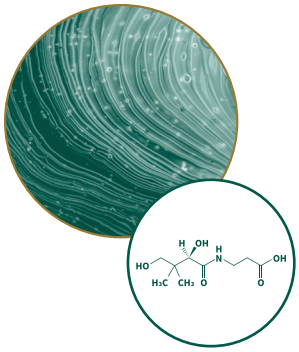


Grapeseed oil

excellent antioxidant properties
(gallic acid)

Its antioxidant properties may be beneficial to protect the skin against radiation-induced free radicals[46].

Grapeseed extract has a high composition of proanthocyanidins that have the ability to trigger the release of vascular endothelial growth factor and therefore a topical application can cause wound contraction and closure faster than the normal rate. The effect on skin lesions of the topical application of the grape seed extract increased cell density and the deposition of connective tissue at the wound[47]. Grape seed extract has proven anti-inflammatory and antimicrobial properties are due to high content of polyphenols, proanthocyanidins and resveratrol[48]. Polyphenolic compounds found in grape seed extract, specifically catechin and epicatechin, it is due to those compounds that the cell viability was increased and as a result protected the cells from UVA damage[49].

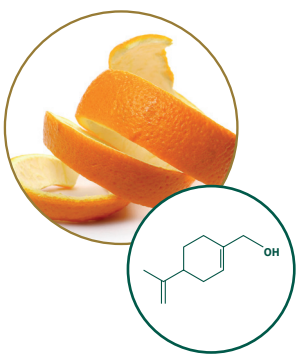


Panthenol

excellent moisturising abilities
(pantothenic acid)

Panthenol, improves hydration in the upper layers of the skin and prevents transepidermal water loss[50].

Panthenol is very important in normal epithelial function. When applied topically, it is readily absorbed and rapidly converted enzymatically to pantothenic acid, a constituent of coenzyme A3. It acts as a moisturiser by improving hydration in the upper layers of the skin and preventing transepidermal water loss but it has also been shown to be involved in wound healing[50]. As a result, panthenol has been extensively studied both for its skin moisturising/restoring abilities and for its beneficial effects in wound healing. A research group studying the effect of dexpanthenol on the skin barrier, has shown that treatment for 7 days has improved epidermal hydration and reduced transepidermal water loss[51]. Another clinical study focused on the efficacy of dexpanthenol in protecting skin against irritation. Their results suggest that dexpanthenol is able to protect the skin by preserving the hydration levels in the epidermis even in the presence of an irritant agent[52]. The effectiveness of dexpanthenol in wound healing has been shown by different studies, one of which focused on the topical application of dexpanthenol in in vivo models of minor skin trauma, which showed a significantly faster wound healing[53]. Stettler et al, researched the effects of dexpanthenol in an anti scar gel in hypertrophic scars. Their results show that after 8 weeks the scars were significantly less vascularized, less pigmented, softer, thinner, flattened and more elastic[54].



Sweet orange peel oil

excellent tissue-repair properties
(perillyl alcohol – POH)

POH demonstrates significant anti-inflammatory effects in dermal inflammation and wound healing experiments[55].

Orange peel extracts main constituent is polymethoxyflavonoid (PMFs) which have shown to protect the skin against UV damage[56]. Citrus peel extracts have been used for their antioxidant and anti-inflammatory properties[57]. Dominant compound of the peel oil are monoterpene hydrocarbons specifically limonene[58]. D-Limonene and its metabolite perillyl alcohol contributes significantly as an anti-inflammatory agent in murine dermal inflammation and wound-healing. D-limonene, amongst other activities assisting the wound healing process, decreases the cytokine production contributing to the reconstruction of the epidermal barrier[55].

Nature's ingredients

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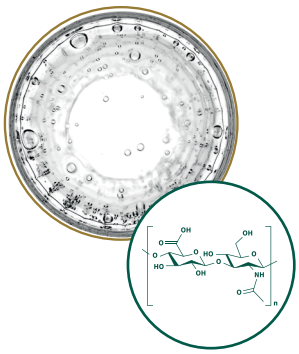

Hyaluronic acid

excellent moisturising abilities
(hyaluronic acid)

Hyaluronic acid has been shown to reduce the surface area of the wound by 70%[59].

Hyaluronic acid is a natural polysaccharide and a key component of the extracellular matrix and is known to be involved in several mechanisms of the wound healing process such as decreasing inflammation, regulating tissue remodeling and enhancing angiogenesis[60]. Skin aging, both intrinsic and extrinsic (ie. by UV irradiation), is associated with loss of moisture in the skin. One key molecule responsible for maintaining the moisture in the skin is hyaluronic acid with its unique ability to bind and retain water molecules[61], thus it plays a vital role in skin aging. In a clinical trial studying wound healing in acute wounds of patients, it has been shown that hyaluronic acid was able to help decrease the wound by 70% in size, 10 days after application[59]. In 2012, a systematic review was published, which collected clinical trials on the usefulness of hyaluronic acid derivatives in the treatment of a wide variety of wounds: burns (including radiodermatitis), superficial surgical wounds (dermabrasion) and chronic wounds (venous ulcers and diabetic foot)[62].

Balsam oil

rich in naphthoquinones
(naphthoquinones)

Naphthoquinones found in Balsam oil possess remarkable wound healing and anti-inflammatory activities[63].

Hypericum perforatum has been used both orally and topically for healing wounds and burns probably due to its antioxidant, antimicrobial and anti inflammatory properties[65]. A clinical study showed that topical application of the extract on cesarean sections promoted healing and epithelial reconstruction[65]. Another clinical study has shown an increase in hydration and a reduction in transepidermal water loss when hypericum was applied topically in comparison to the control group[65]. In addition, St John's Wort has been shown to aid with wound healing of burn wounds. When applied topically, it aided acceleration of healing of second and third degree burn wounds 3 times faster than conventional methods[66].

Calendula officinalis

excellent anti-inflammatory
(xanthophyll)

Xanthophyll has a role in treating minor inflammation of the skin and assisting the healing process of minor wounds[67].

Calendula officinalis flower extract has been widely used for the treatment of minor wounds, and it has been approved by the European Medicine Agency to be used in products that aim to reduce inflammation in the skin. In a study using scratch assays, it has been shown that Calendula had an effect on the inflammatory phase of wound healing by activating a pathway that increases IL-8 in the keratinocytes thus increasing wound closure[67]. Preethi et al, has found that when the calendula extract was used in an in vivo wound healing model, it led to reduced proinflammatory markers and reduced edema[68]. Calendula also improves distensibility, firmness and viscoelasticity in the skin[69].

Shea butter

excellent source of fatty acids
(fatty acids)

Fatty acids are the main component of shea butter that play a role in its antioxidant and anti-inflammatory properties[70-72].

Shea butter is the solid fat extracted from mature fruits of the sheu tree(Vitellaria paradoxa). 90% of its constituents are triglycerdes and 10% non-triglycerides such as oil soluble tocopherols, triterpenes, phenols, allantoin, polyphenols and karitene. Shea butter is a rich source of fatty acid, more common to found stearic, oleic, palmitic, linoleic and arachidic[73].Topical use of Shea butter has shown anti-aging and anti-inflammatory properties[74]. The anti-inflammatory properties of shea butter were proved by the inhibition of iNOS, COX-2 and cytokines[75].

Nature’s ingredients

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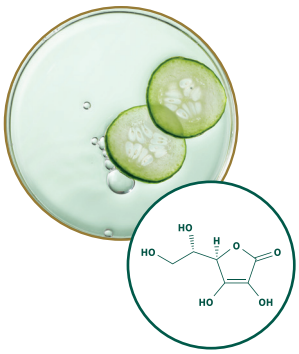
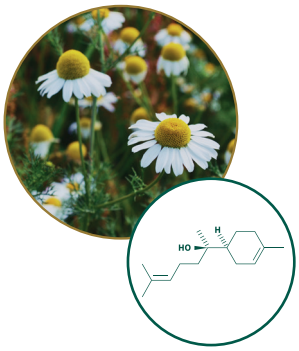


Cucumber extract

excellent antioxidant properties
(vitamin C)

Rich in Vitamin C, it stimulates collagen synthesis and assists in antioxidant protection and photodamage[76].

Cucumis sativus extract has shown antioxidant and analgesic activity. Compounds found in the extract responsible for those activities are flavonoids and tannins[77]. The extract is also rich in vitamin C which stimulates collagen synthesis and assists in antioxidant protection and photodamage[78-79]. Cucumber is used not only for its soothing effects on skin irritation but also reduces swelling. Cucumis sativus extracts have shown pharmacological activities such as antioxidant, antiwrinkle and antiaging and antimicrobial. Lactic acid an ingredient found in cucumber juice is used for dry skin, ichthyosis[76]. A topical skin care cream produced with cucumber extract was proven to increase trans-epidermal water loss and acts as a whitening agent[80].

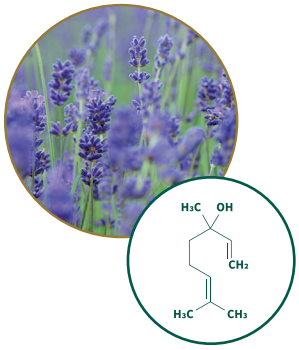


Chamomile extract

rich in bisaboloids
(a-bisabolol molecule)

Has a role in faster reepithelialisation and wound-breaking strength[81].

Chamomile, a medicinal plant, contains levomenol, bisaboloids, chamazulene, and flavonoids, which are responsible for its anti inflammatory and antimicrobial properties[82]. It has been shown that when it is applied topically as a gel, it delays the onset of radiation dermatitis in a study conducted with head and neck cancer patients undergoing radiotherapy[83]. Another study by Nayak et al has shown that when chamomile extract was applied topically on the wound, it was able to reepithelialise faster and had a significantly higher wound-breaking strength in comparison to the control group[81].



Lavender essential oil

rich in monoterpenes
(linalool molecule)

Due to its high monoterpene content, it has anti-bacterial and anti-fungal properties[84].

Lavender oil owes its anti-bacterial and anti-fungal activity to its main components monoterpenes such as linalool and linalyl acetate[84]. It was shown in a study performed on rat models that topical application of lavender oil increased collagen synthesis by fibroblasts[85]. It was proven that lavender essential oil is an inhibitor of the synthesis of 4 pro-inflammatory cytokines characterizing the oil for anti-inflammatory treatment[86].

INTENSIVE CREAM

STARTER DUO

The **εὖSKIN® Intensive Cream** is specifically formulated to aid in the recovery of skin damaged by radiotherapy, chemotherapy, or other irritants. It is composed of a range of natural and restoring ingredients including Ganoderma lucidum, Hyaluronic acid and Panthenol.

Ganoderma lucidum extract has numerous pharmacological and therapeutic properties that make it an excellent antiallergic, antioxidant, antiviral, and anti-inflammatory ingredient[34].

Hyaluronic acid is known to be involved in wound healing processes such as decreasing inflammation, regulating tissue remodelling and enhancing angiogenesis[60]. It is also important for maintaining the moisture in the skin with its unique ability to bind and retain water molecules[61].

Panthenol functions as a moisturizer, inhibits trans-epidermal water loss[50,51] and accelerates the process of wound healing[53].

APPLICABLE SKIN CONDITIONS

Papulopustular eruption, Skin rash, Radiation dermatitis, Irritative dermatitis, Pruritus, Dry skin, Erythema, Wound healing complications, Urticaria rash, Atopic dermatitis, Eczema, Skin atrophy, Skin wounds, Cheilitis.

RECOVERY OIL

STARTER DUO

εὖSKIN® Recovery Oil's non greasy formula contains Gynura procumbens, Cannabis sativa and Grapeseed to assist with the recovery of sensitive and irritated skin areas.

Gynura procumbens was found to inhibit the expression of the proteins responsible for the degradation of collagen[24]. Due to its high percentage of phenolic compounds, it exhibits natural antioxidant activity[22].

Cannabis seed oil has been found to prevent skin inflammation that occurs during the process of wound healing[45].

Grapeseed oil has anti-inflammatory and antimicrobial properties due to the high content of polyphenols, proanthocyanidins and resveratrol. Topical application in skin lesions increases cell density and deposition of connective tissue at the wound[47].

APPLICABLE SKIN CONDITIONS

Hand-foot syndrome (HFS), Palmar-plantar erythrodysesthesia (PPE) - Bullous acral erythema, Xerosis, Dry skin, Acquired ichthyosis, Wound healing complications, Sebaceous hyperplasia, Eczema, Skin ulcers, Petechiae, Skin wounds.

SOOTHING BODY LOTION

The **εῦSKIN® Soothing Body Lotion** is a nutrient-rich product that features Collagen peptides, Balsam oil, and Hyaluronic acid. It also contains Aloe vera and Gynura procumbens, known for their anti-inflammatory[41], antimicrobial[39], and antioxidant[29] characteristics.

Collagen peptides have been previously demostrated to promote healing in wound skin models and clinical studies[29-31].

Balsam oil has been utilized for the treatment of wounds and burns both orally and topically, likely due to its antioxidant, antimicrobial, and anti-inflammatory properties[64]. Moreover, the application of the extract on caesarean sections resulted in faster healing and epithelial reconstruction[87].

Hyaluronic acid has been recognized for its role in wound healing, which includes the ability to reduce inflammation, regulate tissue remodelling, and promote angiogenesis[60]. It also plays a crucial part in preserving the skin's hydration levels by its distinctive capacity to attach and hold onto water molecules[61].

APPLICABLE SKIN CONDITIONS

Radiation dermatitis, Irritative dermatitis, Pruritus, Dry skin, Xerosis, Acquired ichthyosis, Wound healing complications, Urticaria rash, Atopic dermatitis, Skin ulcers, Skin atrophy, Skin wounds.

INTENSIVE GEL

The **εῦSKIN® Intensive Gel** is a formulation that is also suitable for use in mucosal areas. It contains Aloe vera, Cucumber, and Chamomile extracts, which imbue the gel with anti-inflammatory[38,82], antimicrobial[76,82], analgesic[77] and refreshing capabilities.

Aloe vera has been used for centuries to treat skin injuries such as burns and eczema owing to its anti-inflammatory[38], antimicrobial[40] and wound healing properties[88]. In a clinical study it was also revealed that Aloe vera had a delaying effect on radiation-induced dermatitis in patients who were undergoing radiotherapy.

Cucumber extract has been shown to have antioxidant and antimicrobial properties probably due to its high content of flavonoids and tannins[76-77]. The extract is also rich in Vitamin C, which stimulates collagen synthesis and assists in antioxidant protection and photodamage[78-79].

Chamomile extract has anti-inflammatory and antimicrobial properties[82] attributed to its constituents such as levomenol, bisaboloids, chamazulene, and flavonoids. Topical application of chamomile extract on the wound has resulted in faster reepithelialisation compared to the control group[81] in a clinical setting.

APPLICABLE SKIN CONDITIONS

Radiation dermatitis, Irritative dermatitis, Eczema, Skin atrophy.

NAIL REPAIR OIL

εὖSKIN® Nail Repair Oil was developed with the purpose of enhancing the growth of healthy nails and repairing damaged ones. Its key components are Grapeseed, Lavender, and Gynura procumbens.

Grapeseed oil has anti-inflammatory and antimicrobial properties due to the high content of polyphenols, proanthocyanidins and resveratrol. Topical application on skin lesions increases cell density and deposition of connective tissue at the wound[47].

Lavender oil owes its anti-bacterial and anti-fungal activity to its main components, which are monoterpenes such as linalool and linalyl acetate[84]. It was previously shown that topical application of lavender oil increased collagen synthesis by fibroblasts[85].

Gynura procumbens properties were found to inhibit the expression of the proteins responsible for the degradation of collagen[24]. Due to its high percentage of phenolic compounds, it exhibits natural antioxidant activity[22].

APPLICABLE SKIN CONDITIONS

Paronychia, Onycholysis, Cracked nails, Brittleness, Dystrophic nails.

LIP CARE

The **εὖSKIN® Lip Care** is a mild fusion of rejuvenating and moisturizing constituents, specially created to soothe dryness and cracks in the lips. Its principal elements consist of Sweet orange peel oil, Calendula, and Shea butter.

Sweet orange peel oil is mainly composed of monoterpene hydrocarbons, specifically limonene[58]. D-Limonene contributes as an anti-inflammatory agent in dermal inflammation and wound-healing[55].

Calendula officinalis flower extract has been approved by the EMA to be used in products that aim to reduce inflammation in the skin. It has been shown it can impact the inflammatory phase of wound healing by activating a pathway that increases IL-8 in the keratinocytes, thus increasing wound closure[67].

Shea butter is a rich source of fatty acids, such as stearic, oleic, palmitic, linoleic and arachidic[73]. The topical use of Shea butter has shown anti-aging and anti-inflammatory properties[74].

APPLICABLE SKIN CONDITIONS

Stomatitis, Oral mucositis, Perioral dermatitis, Cheilitis.

GENTLE WASH

The **ΕΥSKIN® Gentle Wash** gently cleanses and maintains the skin's pH balance. Its key ingredients include Cucumber extract, Chamomile extract and Aloe Vera.

Cucumber extract has been shown to have antioxidant and antimicrobial properties probably due to its high content of flavonoids and tannins[76-77]. The extract is also rich in Vitamin C, which stimulates collagen synthesis and assists in antioxidant protection and photodamage[78-79].

Chamomile extract contains levomenol, bisaboloids, chamazulene, and flavonoids, which are responsible for its anti-inflammatory and antimicrobial properties[82]. When applied topically on the wound, it was able to reepithelialise the wound faster in comparison to the control group[81].

Aloe vera has been used for centuries to treat skin injuries such as burns and eczemas because of its anti-inflammatory[38], antimicrobial[40] and wound healing properties[88]. In a clinical study, with patients undergoing radiotherapy, it was shown that aloe vera delayed radiation induced dermatitis[41].

APPLICABLE SKIN CONDITIONS

Papulopustular eruption, Skin rash, Radiation dermatitis - Irritative dermatitis, Hand-foot syndrome (HFS), Palmar-plantar erythrodysesthesia (PPE) - Bullous acral erythema, Pruritus, Xerosis, Dry skin, Acquired ichthyosis, Erythema, Wound healing complications, Sebaceous hyperplasia.

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