RSL
REVOLUTIONARY
LABS

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.

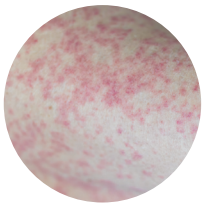
In acute actinic dermatitis there is erythema, edema, inflammation, cell apoptosis and necrosis. Erythema is due to inflammation caused by the dilation of superficial vessels and is a result of the concentration of immune system cells and the cytokines they produce.[2] The Radiation Therapy Oncology 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.

Common skin conditions during oncological treatment

Radiotherapy
Chemotherapy
Hormone therapy
Immune therapy & Biologicals



Skin inflammation
(bumps, tags and rashes)

Skin inflammation 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. However, when the inflammation becomes excessive, it can lead to skin barrier disruption and various symptoms such as dryness, flakiness, and roughness.[5]

Brittle, Cracking cuticles and nails

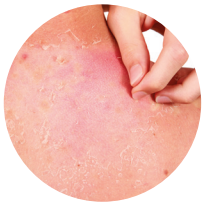
Brittle nails and cracking cuticles is when nails and cuticles are dry, fragile, and easily prone to breaking or splitting.[6]

Stomatitis
(oral blisters,difficulty in injection)

Stomatitis is a common side effect of chemotherapy, characterized by inflammation and soreness of the mouth or the mucous membranes lining the oral cavity. Its symptoms can include pain, redness, swelling, and the development of sores or ulcers in the mouth.[7]

Atopic Dermatitis
Eczema, Itchiness,sores)

It is a common inflammatory skin condition that is characterized by the appearance of itchy lesions in the skin.[8]

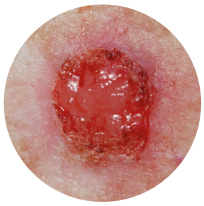


Radiation dermatitis

Radiation therapy often results in radiation dermatitis, a condition that affects a significant proportion of patients undergoing treatment (up to 85%). This condition can cause moderate-to-severe skin reactions, with characteristic changes such as edema, erythema, dyspigmentation, and necrosis.[9]

Chemotherapy extravasation
(leaking of chemo drugs in the skin & wounds)

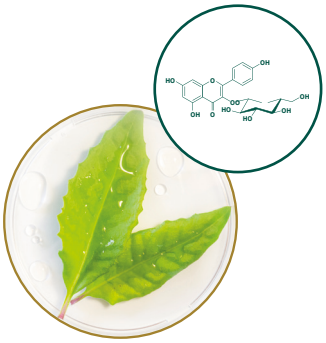
Chemotherapy extravasation is when chemotherapy drugs leak into the surrounding tissue instead of entering the intended vein. This can lead to symptoms such as pain, swelling, redness, blistering or even ulcers in the affected area and can cause damage to the surrounding tissues.[10]



Malignant wounds
(tumors breaking 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.[11]

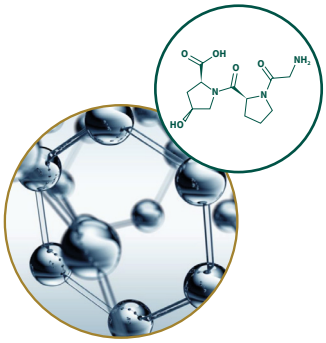
The innovation ~ Our ingredients



Gynura procumbens

source of natural antioxidants
(phenolic compounds)

Due to its high phenolic content, it protects the skin from free radicals and environmental aggressors.[12]



Collagen peptides

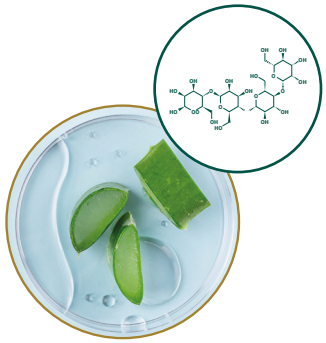
rich in Gly-Pro-Hyp
(amino acids)

Collagen has been shown to improve healing chronic wounds in randomised clinical trials.[13]

Ganoderma

source of antiallergic properties
(triterpenes)

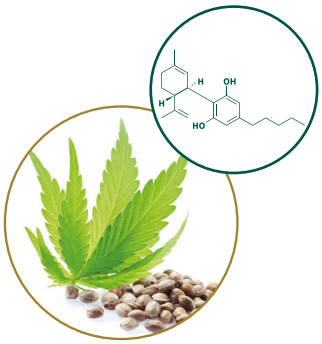
Ganoderma is an ideal match for sensitive and dry skin types that need extra skin care.[14]



Aloe vera

rich in vitamins and minerals
(glucomannan)

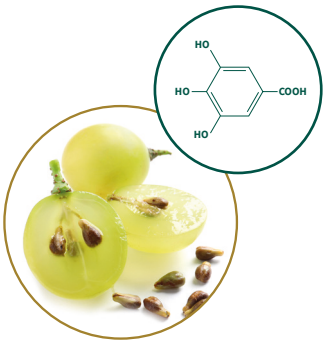
Glucomannan was shown to reduce inflammation, accelerate tissue regeneration and have antibacterial properties.[15]



Cannabis seed oil

rich in cannabidiol
(cannabidiol)

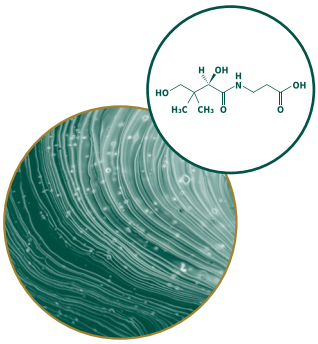
A valuable source of biologically active substances that reduce oxidative stress, inhibit skin aging processes and positively affect the viability of skin cells.[16]



Grape seed oil

excellent antioxidant properties
(gallic acid)

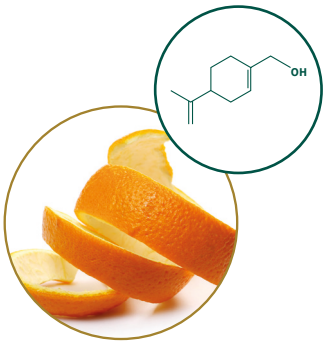
Antioxidant properties may be beneficial to protect the skin against radiation-induced free radicals.[17]



Panthenol

excellent moisturising abilities
(pantothenic acid)

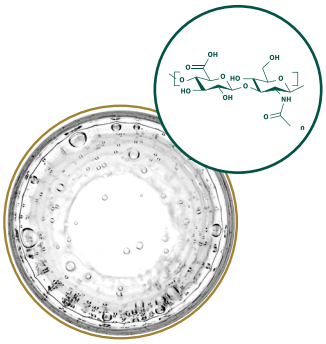
Improves hydration in the upper layers of the skin and prevents transepidermal water loss.[18]



Sweet orange peel oil

excellent tissue-repair properties
(perillyl alcohol – POH)

POH demonstrates significant anti-inflammatory effects in dermal inflammation and wound healing experiments.[19]



Hyaluronic acid

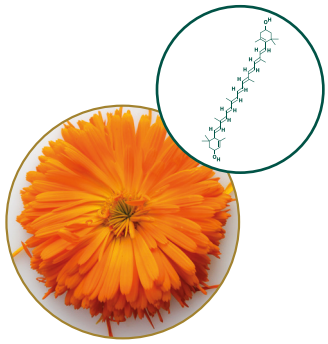
excellent moisturising abilities
(hyaluronic acid)

Hyaluronic acid has been shown to reduce the surface area of the wound by 70%.[20]

Balsam oil

rich in naphthoquinones
(naphthoquinones)

Naphthoquinones found in Balsam oil possess remarkable wound healing and anti-inflammatory activities.[21]



Calendula officinalis

excellent anti-inflammatory
(xanthophyll)

Xanthophyl has a role i treating minor inflammation of the skin and assisting the healing process of minor wounds.[22]

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 antiinflammatory properties.[23-25]

INTENSIVE CREAM

STARTER DUO

The **ΕΰSKIN® Intensive Cream** is designed for skin damaged by radiotherapy, chemotherapy or other irritants. It is composed of a range of natural and restoring ingredients including Collagen peptides, Hyaluronic acid, Panthenol and Ganoderma extract. All the ingredients have been carefully chosen based on scientific evidence.

Ganoderma lucidum extract has numerous pharmacological and therapeutic properties that make it an excellent antiallergic, antioxidant, antiviral, and anti-inflammatory ingredient.[26]

Hyaluronic acid is known to be involved in wound healing processes such as decreasing inflammation, regulating tissue remodeling and enhancing angiogenesis.[27] It is also important for maintaining the moisture in the skin with its unique ability to bind and retain water molecules.[28]

Panthenol has been proven to act as a moisturiser, to prevent transepidermal water loss[18,29] and to also promote faster wound healing.[30]

APPLICABLE SKIN CONDITIONS

Papulopostular eruption, Skin Rash, Radiation dermatitis, Irritative dermatitis, Pruritus, Dry Skin, Erythema, Wound healing complications, Urticaria Rash, Atopic Dermatitis, Eczema, Skin atrophy, Skin wounds, Cheilitis

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RECOVERY OIL

STARTER DUO

ΕΰSKIN® Recovery Oil's non greasy formula contains Grape seed extract, Ganoderma and Cannabis sativa seed extract to assist with the recovery of sensitive and irritated skin areas.

Gynrura procumbens properties were found to inhibit the expression of the proteins responsible for the degradation of collagen.[31]

Cannabis seed oil impedes the mediators of inflammation that occur during wound healing.[32]

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.[33]

APPLICABLE SKIN CONDITIONS

Hand foot syndrome (HFS) Palmar - Plantar Erythrodysaethesia syndrome (PPE) or Bullous Acral Erythema, Xerosis, Dry Skin, Acquired icthyosis, Wound healing complications, Sebaceous Hyperpalsia, Eczema, Skin ulcers, Petechiae, Skin wounds

SOOTHING BODY LOTION

The **εŨSKIN® Soothing Body Lotion** is rich with its ingredients of Aloe Vera, Gynura and Collagen to present anti-inflammatory[34], antimicrobial[35] and antioxidant[12] properties with its application.

Collagen peptides have been previously shown to promote wound healing in skin wound models and clinical studies[36-38]

Balsam oil has been used both orally and topically for healing wounds and burns probably due to its antioxidant, antimicrobial and anti-inflammatory properties.[39] Topical application of the extract on cesarean sections promoted healing and epithelial reconstruction. [40]

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APPLICABLE SKIN CONDITIONS

Radiation dermatitis, Irittative dermatitis, Pruritus, Dry Skin, Xerosis, Acquired icthyosis, Wound healing complications, Urticaria rash, Atopic dermatitis, Skin ulcers, Skin atrophy, Skin wounds

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INTENSIVE GEL

The **εŨSKIN® Intensive Gel** is a formulation that is suitable to be used for mucosal areas, main ingredients such as Aloe vera, Chamomile and Cucumber extracts provide an anti-inflammatory[41-42], antimicrobial[42-43] antioxidant[21] and analgesic[44] abilities to this gel.

Aloe vera has been used for centuries to treat skin injuries such as burns and eczemas because of its anti-inflammatory,[41] antimicrobial[47] and wound healing properties.[45] In a clinical study, with patients undergoing radiotherapy, it was shown that aloe vera delayed radiation induced dermatitis.[34]

Chamomile extract applied topically on the wound, was able to re-epithelialise faster and had a significantly higher wound-breaking strength in comparison to the control group.[46]

Cucumber extract, (cucumis sativus) is rich in flavonoids and tannins[44] and also vitamins C and A. Vitamin C stimulates collagen synthesis and assists in antioxidant protection and photodamage.[47-48]

APPLICABLE SKIN CONDITIONS

Radiation dermatitis, Irittative dermatitis, Eczema, Skin atrophy

NAIL REPAIR OIL

εὖSKIN® Nail Repair oil is a dry oil formulation which will promote healthy nail growth and restore damaged nails. Main ingredients found in the oil are Gynura procumbens extract, Grape seed extract and Lavender.

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.[33]

Lavender oil owes its anti-bacterial and anti-fungal activity to its main components monoterpenes such as linalool and linalyl acetate.[49] In a previous study, it was shown that topical application of lavender oil increased collagen synthesis by fibroblasts.[50]

Gynura procumbens extract is known for its antibacterial, antifungal, anti photoaging and antioxidant abilities. Research has shown that due to its high percentage of phenolic compounds found, it exhibits natural antioxidant activity, making it a powerful antioxidant for the skin.[12]

APPLICABLE SKIN CONDITIONS

Paronychia, Onycholysis, Cracked nails, Brittleness, Dystrophic nails

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LIP CARE

The **εὖSKIN® Lip Care** is a gentle blend of hydrating and restore factors designed for dry and cracked lips, consisting mainly of Shea butter, Calendula and Sweet orange peel oil.

Sweet orange peel oil is mainly composed of monoterpene hydrocarbons, specifically limonene.[51] D-Limonene contributes as an anti-inflammatory agent in dermal inflammation and wound-healing and it also decreases the cytokine production contributing to the reconstruction of the epidermal barrier.[19]

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 has an effect on the inflammatory phase of wound healing by activating a pathway that increases IL-8 in the keratinocytes thus increasing wound closure.[52]

Shea butter is a rich source of fatty acid, more common to found stearic, oleic, palmitic, linoleic and arachidic.[53] Topical use of Shea butter has shown anti-aging and anti-inflammatory properties.[54]

APPLICABLE SKIN CONDITIONS

Stomatitis, Oral mucositis, Perioral dermatitis, Cheilitis

GENTLE WASH

The **εὖSKIN® Gentle Wash** is a gently cleaning and refreshing agent that assists in maintaining the optimum pH balance of the skin. Main ingredients are Gynura, Cucumber extract and Chamomile.

Cucumber extract has been shown to have antioxidant and antimicrobial properties probably due to its high content of flavonoids and tannins.[43-44] The extract is also rich in Vitamin C, which stimulates collagen synthesis and assists in antioxidant protection and photodamage.[47]

Chamomile, contains levomenol, bisaboloids, chamazulene, and flavonoids, which are responsible for its anti inflammatory and antimicrobial properties.[42] When applied topically on the wound, it was able to reepithelialise the wound faster in comparison to the control group.[46]

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APPLICABLE SKIN CONDITIONS

Papulopostular eruption, Skin rash, Radiation dermatitis-Irittative dermatitis, Hand foot syndrome(HFS) Palmar-Plantar Erythrofysaethesia syndrome(PPE) or Bullous Acral Erythema, Pruritus, Xerosis, Dry Skin, Acquired Icthyosis, Erythema, Wound healing complications, Sebaceous Hyperplasia.

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