**Description**

**A COMPOSITION FOR INCREASING THE SPEED OF WOUND HEALING**

**Technical Field**

The invention relates to a topical composition for increasing the speed of wound healing.

**State of the Art**

Wound is the damage or destruction occurring in a tissue to such an extent to interrupt the normal functions. The natural reaction of the organism is to close the wounds within the minimum time possible and recover the normal continuity of the structures. This process is called the wound healing. Wound healing follows the same biological and biochemical principles for all the tissues. Wound healing may be in two types, namely the primary and secondary, depending on the severity and the condition of the wound. The primary wound healing is the optimal form of wound healing. In order for the primary wound healing to take place, the sides of the wound must be smooth and aligned with each other, and the wound must be clean and subjected to a good dressing. Primary wound healing results in the rapid and uncomplicated closing of the wound within four-six days without any perceivable inflammation. A very limited scab forms and the structure and the function considerably resume their original state.

Enzyme preparations are one of the principal means for wound cleaning. Enzymes support the physiological wound cleaning by selectively breaking down the necrotic material in exudative phase and the scab. This speeds up the production of the new tissue (granulation and epithelization). One of the significant advantages of enzyme cleaning is that the necrotic tissue is removed while the healthy tissue remains intact.

Antibiotics may be used systemically or locally. The local use of antibiotics may cause problems for certain reasons. Their use may cause the pathogens to become more resistant or may result in the tactile allergies. In addition, it is difficult to achieve the sufficient drug levels without impairing the process of wound healing. On the other hand, an advantage of the local treatment is that the systemic side effects are almost non-existent due to the minimum absorption of the drug into the blood circulation.

The invention no. EP1404311B1 entitled "Wound treatment agent" relates to a wound treatment composition comprising polyhexamethylenebiguanide and at least one surfactant in aqueous solution. The surfactant is a glycine derivative and/or a sulfosuccinate and/or an amide based on a normal fatty acid. The surfactant is preferably betaine and in particular, an amidoalkylbetaine of a fatty acid. The wound treatment composition is suited for use as a washing or cleaning gel, dressing changing or moisturizing gel, as a dissolving gel for dissolving incrustations or scabs from the body surfaces or wounds and for removing dressings and for changing moist dressings.

According to the invention no. WO 1999/062451, jojoba, an oily liquid at moderate ambient temperatures, is readily absorbed by human skin where it relieves irritation and inhibits the formation of lesions caused by viruses. The inhibitory action is also applicable to the enveloped viruses, which express as sores at dermal surfaces in human. When applied topically to an incipient herpes episode, it will quickly penetrate the epidermis to reach the subdermal cells and suppress viral replication which leads to inflammation and the formation of blisters on the face, genital area and other mucosal areas. Compositions of low molecular weight organic acids in jojoba alcohol enhance antiviral activity. Jojoba alcohol is a transdermal delivery system for these virucidal acids and other pharmacologically active agents. Topically applied jojoba alcohol is non-toxic to small animals and humans. Jojoba alcohol prepared here by chemical hydrogenolysis of jojoba oil is a mixture of mono-unsaturated alcohols with 11 to 24 linear carbons.

The invention no. EP1863469B1 entitled “A topical analgesic composition" relates to a topical analgesic composition. The invention relates in particular to  a synergistic combination of a topical anesthetic and a wound barrier forming agent capable of providing extended analgesia of ‘significant open wounds’ that being, for example, a laceration, surgical incision, abrasion, ulcer or burn, but not being a minor cut, scratch, sting, burn or abrasion.

As a result, the presence of the need for a composition for increasing the speed of wound healing and the inadequacy of the existing solutions have made it necessary to perform an improvement in the relevant art.

**Object of the Invention**

In order to eliminate the disadvantages of the state of the art, an object of the invention is to effectively increase the speed of wound closing.

Another object of the invention is to trigger the release of the growth hormone.

Another object of the invention is to provide AMPK activation in the wounds where it is topically applied.

Another object of the invention is to increase the expression of VEGF (vascular endothelial growth factor) and IGf-1.

Another object of the invention is to suppress the chronic inflammation in the open wounds, owing to the ability to suppress src tyrosine kinase enzymes.

Another object of the invention is to suppress the expression of substance P and therefore inhibit the pain and inflammation.

Another object of the invention is to provide the ability to reduce the inflammation and pain, owing to the Cox-2 and Pge-2 suppressing action.

In order to achieve the aforesaid advantages, the invention is a composition for increasing the speed of wound healing, said composition being obtained by the components selected from the group comprising dimethyldioscin, methylhecogenin, transdermal matrix that are used individually or in combinations.

The structural and characteristic features and all the advantages of the invention will become more clearly understood from the detailed description provided below and therefore, the evaluation must be made taking this detailed description into consideration.

**Detailed Description of the Invention**

The invention is a topical composition for increasing the speed of wound healing. Said composition contains dimethyldioscin and 98-e and hecogenin derivatives.

Dimethyldioscin, one of the ingredients of the invention, is a derivative of dioscin, which is a known component of furostanol saponin family. Dimethyldioscin triggers the release of growth hormone, provides AMPK activation in the wounds where it is topically applied and increases the expression of VEGF (vascular endothelial growth factor) and IGf-1. Accordingly, it effectively increases the speed of wound closing. Said ingredient of the invention, dimethyldioscin, suppresses the chronic inflammation in the open wounds, owing to its ability to suppress src tyrosine kinase enzymes.

Methylhecogenin, another ingredient of the invention, is an anti-inflammatory component and it suppresses the expression of substance P and therefore inhibits the pain and inflammation. It provides the ability to reduce the inflammation and pain, owing to its Cox-2 and Pge-2 suppressing action.

The composition according to the invention contains dimethyldioscin, methylhecogenin, transdermal matrix.

Said formulation is obtained by a mixture of the aforesaid components according to the following ratios by weight:

1-4% dimethyldioscin,

2-3,5% methylhecogenin,

97-92,5% transdermal matrix: propylene glycol (3%), PG (40%), oleic acid (57%).

The composition is obtained from the aforesaid components selected from the aforesaid group and used according to the mentioned weight ratio ranges individually or in combinations.

Said invention also encompasses the use of said composition for increasing the speed of wound healing and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for increasing the speed of wound healing, said composition being obtained by the components selected from the group comprising dimethyldioscin, methylhecogenin, transdermal matrix that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 1-4% by weight dimethyldioscin.
3. A composition according to Claim 1 characterized in that it comprises 2-3,5% by weight methylhecogenin.
4. A composition according to Claim 1 characterized in that it comprises 97-92,5% by weight transdermal matrix.
5. A composition according to Claims 1 and 4 characterized in that it comprises 3% by weight propylene glycol.
6. A composition according to Claims 1 and 4 characterized in that it comprises 40% by weight PG.
7. A composition according to Claims 1 and 4 characterized in that it comprises 57% by weight oleic acid.
8. Use of the components according to Claims 1 to 7 obtained individually or in combinations from the group consisting of dimethyldioscin, methylhecogenin, transdermal matrix for the manufacture of a composition for increasing the speed of wound healing.
9. A composition according to preceding claims characterized in that it is topically applied.

**ABSTRACT**

**A COMPOSITION FOR INCREASING THE SPEED OF WOUND HEALING**

The invention relates to a composition formed for increasing the speed of wound healing.

No figure.