

---

## Wound Healing

### Remedy for Treating Ultraviolet Dermatitis Cases, Possessing Anti-Inflammatory and Wound-Healing Activities

*R. R. Ismatova, A. U. Ziganshin, et al.*

RU 2,316,331 (February, 2008)

The remedy is comprised of an ointment containing sodium humate powder, polyethylene glycol, dimexide and drinking water.

### Cell-Derived Microparticles as Hemostatic Agents for Control of Hemorrhage and Treatment of Bleeding Disorders

*R. R. Ismatova, A. U. Ziganshin, et al.*

RU 2,316,331 (February, 2008)

Described are compositions comprised in part of humate that induce platelet aggregation and are useful for treating bleeding disorders, particularly those involving platelet dysfunction. They can also be used to treat disorders such as thrombocytopenia caused by chemotherapy. In one example, a composition induced strong platelet aggregation similar to that caused by 8% normal plasma.

### Wound-Healing Agent

*N. P. Avvakumova, S. V. Pervushkin, et al.*

RU 2,274,456 (April, 2006)

The invention relates to the development of an ointment consisting of 10.0 mL of a 1% aqueous solution of humic acids (pH = 7.4), low-mineralized peloids and an aerosil-glycerol base for preparing 100 g total weight. The ointment provides for the development of a medicinal agent inducing wound-healing effects and is useful in injuries of different etiology. It is free of ecotoxic agents and exhibits a high biological availability.

### Preparation of Wound-Healing Agent

*E. N. Lyubchenko, M. M. Anisimov, and S. M. Kuleshov*

RU 2,235,548 (September, 2004)

The invention can be used for the treatment of skin damage and wounds in animals. The agent is comprised of a gel-forming agent, active substances, and distilled water. Humates and *Eleutherococcus senticosus* plant extract are the active substances. The agent accelerates wound healing by 2 days.

### Factor VIIA Inhibition by Naturally Occurring Peat Humic Acids and Synthetic Humic Acid Like Polymers

*H.-P. Kloecking, N. Mahr, K. H. Heise, and W. Herdering*

*Proceedings of the 12<sup>th</sup> International Peat Congress on the Wise Use of Peatlands*, J. Paivanen, Ed.; Jyväskylä, Finland: International Peat Society, 2004; 1, 417-420

Activated Factor VII (F VIIa), an essential component of the extrinsic activation of blood coagulation, is inhibited by substances of the humic acid (HA) type, as shown by the prolongation of clotting time *in vitro*. On the basis of IC<sub>50</sub> values the strongest effect was observed with caffeic acid polymer (27.6 µg/mL), followed by three natural-product humic acids (40.0-51.9 µg/mL), and the sodium salt of peat water HA (84.2 µg/mL). At lower concentrations HA reduced the clotting time up to a maximum of 24%. Thus, F VIIa aside from thrombin and F Xa may be considered as further targets of anticoagulatory substances such as HA.