

NEW APPLICATION OF DEXTRAN DERIVATIVES FOR ANEMIA TREATMENT



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The subject of the offer is the application of modified dextran derivatives to prevent or treat anemia of various etiology.

Offered solution is characterized by favorable safety profile, and thus may be used to treat patients with contraindications to treatment with other anti-anemia drugs.

Anemia is a condition with decreased hemoglobin concentration and red blood cell count. It may result from the loss of red blood cells due to bleeding or hemolysis, or the insufficient or disordered erythropoiesis in bone marrow. Anemia should be identified and treated early, as it is a disturbing factor for systemic homeostasis, carrying the risk of serious health disorders which may lead to deteriorate the quality of life, such as left ventricular hypertrophy. Currently, in most cases anemia is treated by use of recombinant human erythropoietin or its analogs. Unfortunately, the use of erythropoietin is associated with the risk of serious adverse events such as high blood pressure, blood hypercoagulability increasing the risk of blood clots and seizures. In addition, **treatment with erythropoietin is limited in some groups of patients by numerous contraindications.**

Thus, new therapeutic approaches to prevent and treat anemia are still under investigation. The research is focused on drug candidates with more favorable safety profile and possibility to use in the anemia of unknown etiology or cases that treatment with already known methods is difficult or even impossible.



The subject of the offer is a **new method for the treatment of anemia of various etiologies with use of dextran derivatives**. This polysaccharide is characterized by favorable safety profile and therefore is widely used in medicine. Its application consists in e.g. complexing iron in medicines indicated to anemia treatment or as a blood substitutes. Until now, the properties of dextran or its derivatives to increase the number of red blood cells, hemoglobin concentration and hematocrit were unknown.

Particularly interesting is the possibility to apply dextran derivatives in patients undergoing hemodialysis, during which the dextran ability to neutralize heparin may be additionally beneficial. It would allow to avoid the necessity to use highly allergenic protamine sulfate.

The main advantages of offered solution are:

- the possibility to use modified dextran in therapy of anemia of various etiology;
- favorable safety profile which allows to use dextran in wide spectrum of patients;
- simplicity of the modified dextran synthesis process and its low cost.

The offered solution is subject to patent application. Further research on project development is conducted at the Faculty of Chemistry of the Jagiellonian University. Currently, the Centre for Innovation, Technology Transfer and University Development (CITTRU) is looking for entities interested in licensing and commercial application of described materials.

MORE INFORMATION:

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