TECHNOLOGY OFFER OF THE UNIVERSITY OF PÉCS

Nanotechnological medicine formulation for steroids

Keywords inflammatory drug, nano-silica-beads, elimination of the side-effects

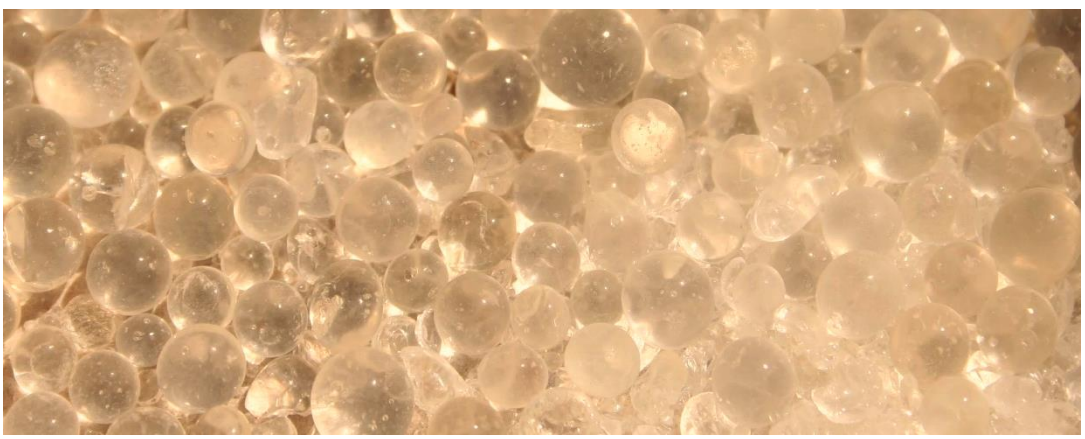
BACKGROUND

The fast and powerful anti-inflammatory effects of steroid preparations are known as well as metabolic side-effects (such as diabetes, osteoporosis, hormonal metabolic disorders, etc.) in long-term treatments.

The steroid medicines usually contain the active compound as a free solution, which is readily absorbed by many types of cells, thereby contributing to the desired effect and undesirable side effects.

BRIEF DESCRIPTION

The aim of the research was to develop a steroid formulation especially for inflammatory cells (macrophage cells). Macrophages are phagocytosing the particles of size beyond 1OOnm in their environment and then build them down. For the preparation of a steroid composition preferentially acting on macrophages, chemically modified silica bead-based particles were prepared in a size range of about 1 to about 15 micrometres, wherein the steroidal active ingredient is in the bound form, and the bound agent is exacerbated in acidic environments. According to our preliminary results, a nanotechnological steroid composition is equally suitable for anti-inflammatory effects in macrophage-phagocyting cells. However, in the case of other cells (eg. hepatic cells) the nanotechnological steroid composition does not cause undesirable side effects. Thus, when using nanotechnological steroid formula, it is possible to avoid undesirable side effects of steroid therapy while maintaining anti-inflammatory activity.



We are seeking for: commercial partners, drug developers, cooperation, license partners

IP status Know-how. The disclosed method and technology is fully owned by the University of Pécs.

Contact

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