New formulation for drugs controlled release for ophthalmic use

CSIC and the University of Zaragoza have developed a new formulation to achieve a controlled and sustained release of different drugs inside the eyeball.

Industrial partners from the ophthalmic or pharmaceutical industry are being sought to collaborate through a patent licence agreement.

An offer for Patent Licensing

Inorganic carrier for controlled release of ophthalmic drugs

Intravitreal injections are invasive and the associated risks (retinal detachments, opportunistic infections, cataracts) increase when repeated applications are required. The short half-life of substances (drugs) administered via this route requires frequent injections for the maintenance of effective concentrations, in the treatment of chronic eye diseases, with poor patient compliance. In base of the short half-life of the drugs, alternative drug delivery systems and sustained-release inserts are being developed to overcome this limitation by reducing the frequency of injections. Therefore, there is still a need to administering drugs, in a controlled released manner, to the posterior segment of the eye for the treatment of retinal and choroidal diseases.

Main innovations and advantages

- The main advantage of the present technology is the very significant reduction of the injections frequency.
- The formulation comes in powder form, but is injected as a transparent colloidal dispersion, making it ideal for intravitreal administration without interfering with the vision.
- The carrier is biocompatible and it is significantly eliminated throughout the drug's release period.
- A controlled and sustained release of different drugs is achieved inside the eyeball. It would even be possible to consider the release of several drugs at the same time, in case of treatments with more than one.
- Side effects are reduced, as well as systemic absorption is minimized compared to other modalities of periocular administration.
- It is a novel method but at the same time very simple and economical.

Patent Status
Priority patent application filed.

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