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Delivery of Therapeutic Antibodies from Biodegradable Polymer Scaffolds

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Summary: A direct delivery system for the administration of therapeutic antibodies

Description: Antibodies used clinically are a promising class of therapeutics. However, there are limitations associated with their use including the need for repeated injections and the use of large quantities due to the degradation and diffusion away from the site of interest. This invention is an injectable antibody-laden biodegradable hydrogel that allows the antibody to remain localized and be steadily released in a controlled manner over a sustained period of time. The delivery system may enhance efficacy of the therapeutic agent by increasing the local concentrations and prolonging the exposure of the treatment site. Such a method may be especially useful for the treatment of diseases that occur in locations that are difficult to access, such as cancers that occur in central nervous system and brain. The delivery system may also be useful for maintaining activity of the therapeutic agent by protecting against metabolism, degradation, and/or denaturation.

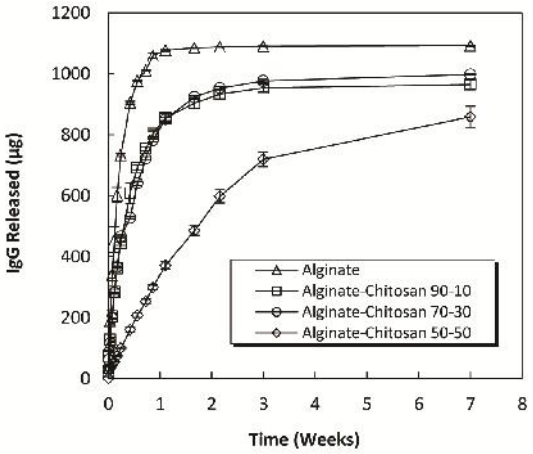
Main Advantages of this Invention:

- Controlled release of antibodies the target site
- Provides a more optimal dosing regimen
- May protect activity of therapeutic agent
- Potential to reduce treatment cost

Potential Areas of Application:

- Biotechnology
- Pharmaceutical

ID number: # 13011



Release of IgG from hydrogels with varying alginate to Chitosan ratios over the course of 7 weeks

Intellectual Property Status: US utility application pending (#14/312,772)

Publications: N.A. Fletcher *et al.*, *Mat. Sci. Eng. C* 2016, 59, 801-806. (Available upon request.)

Opportunity: Seeking a strategic partner for the development of this technology.

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