The Realisation of Research

Universal Drug Delivery System

Case ID:
88-067

Web Published:
Mar 1, 2011

Category(s):
Delivery of Therapeutics

Description:

Drug Delivery System for Crossing the Blood Brain or Blood Retinal Barrier

Available For: Exclusive licensing

Summary

The blood retinal barrier (BRB), and the blood brain barrier (BBB), represent a significant impediment to drug delivery to the eye and the brain, respectively. This lack of drug penetration has resulted in diseases, such as, Age related Macular Degeneration, Alzheimer's Disease and Stroke being extremely difficult to address.

The current challenge is to develop drug-delivery systems that ensure transitions across these barriers in a safe and effective manner.

The Technology and its Advantages

A lipsome-based technology has been developed which enables both biopharmaceuticals and small molecules to cross the BBB and BRB. This technology may be used for a variety of administration methods, including intravenous, intra-nasal, transdermal and topical application. This unique drug delivery system provides a solution to a previously unmet medical need, enabling drugs to cross the BBB and BRB.

Market Opportunity

Ocular anit-noevascularisation preparations, used for the treatment of wet AMD, accounted for $1.8bn in sales in 2008. The segment captured 13.4% of the ophthalmic pharmaceutical market, while showing a year on year growth of 29.8%. Lucentis dominated the field with $1.6bn of sales (Business Insights, 2009).

In the pharmaceutical market, monoclonal antibodies (MAbs) are forecast to be the strongest performing molecule type, delivering a forecast six year compound annual growth rate (CAGR) of 9.5% over 2009-15, outpacing the growth rates of small molecules, therapeutic proteins and vaccines. Additionally, MAbs are expected to provide the biggest portion of absolute sales growth (Datamonitor 2010). Novel drug delivery methods and increasingly being sought for such therapies.

Intellectual Property Status

Patent technology (patent pending)

Further Information

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Keywords:

Ophthalmology & Optometry

Direct Link:

http://uclb.technologypublisher.com/technology/6528