NEW CYCLODEXTRIN-BASED GEMINI SURFACTANTS DRUG DELIVERY SYSTEMS

Opportunity
Researchers at the University of Saskatchewan have designed and evaluated new drug delivery systems composed of cyclodextrin-based gemini surfactants.

The systems can significantly improve therapeutic effect of drugs used for skin tumors.

Our solution
- Superior cellular toxicity for melanoma cells compared to the currently used drug, melphalan (a 50-100 fold higher cytotoxicity).
- Enhances drug uptake by cells.
- Promotes drug retention in cancer cells.
- Facilitates passage through protective layer of skin, i.e. increases drug permeability.

Background
The importance of efficient drug delivery system with high cell permeability is crucial in the treatment of skin derived cancers. Efficient drug delivery system is not only enhances therapeutic effect of the drug but also possesses no toxic effect on healthy tissue.

Current drug delivery systems for skin cancer possess limited permeability effect, often require system administration, provide low drug retention by cancer cells and possess cytotoxic effect for healthy cells.

Global market for drug delivery systems amounted to $139 billion in 2009 while transdermal delivery systems market reached $5.6 billion.

Patent status
US provisional patent applications filled on May 20, 2011.

Publications


Inventor: Dr. Ildiko Badea
Reference: 10-024

For more information:
Innovation Enterprise
Life Sciences Portfolio Manager
ie.contact@usask.ca
+1 306 966 1465
250 – 15 Innovation Blvd Saskatoon, SK S7N 2X8 Canada