



TECH TO BUSINESS

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Novel cyclodextrin-based excipients for drug formulations

TECH ID #: 1094.2

Background:

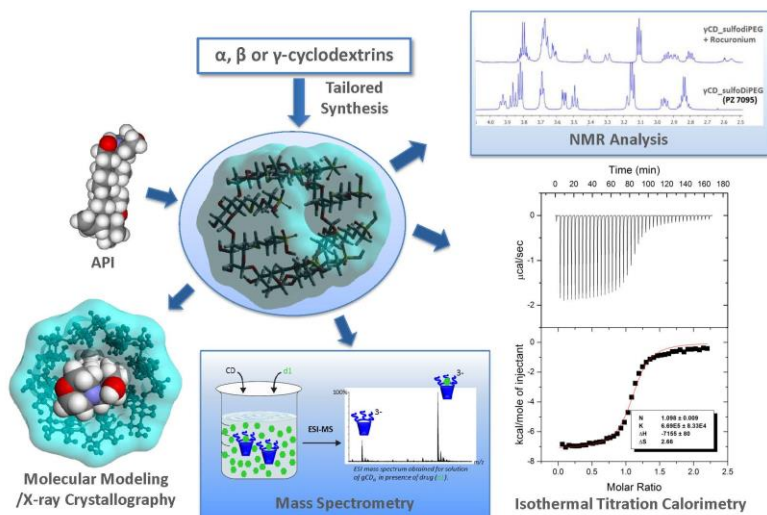
Cyclodextrins (CDs) are cyclic oligosaccharides used for the improvement of water-solubility and bioavailability of medicinal products. At least 6 types are already available on the market. This class of excipients can be readily tailored for use in drug formulations.

Description of Technology:

The CC Ling group in the Department of Chemistry at the University of Calgary develops novel delivery technologies of modern medicines to improve their bioavailability and therapeutic efficacy while minimizing their side effects. They have designed several families of patent protected, uniquely modified cyclodextrins, with rationally designed structures and demonstrated properties that are suitable for applications as excipients. Our materials readily form inclusion complexes with a wide variety of active pharmaceutical ingredients and improve their water solubility, stability and bioavailability. They can be further developed as scavenger medicine to remove undesired metabolites or drugs from the body.

This technology is currently available for exclusive world-wide licensing and co-development. We are seeking a commercial partner interested in commercializing our cyclodextrin-based technologies.

Cyclodextrin Technologies at Alberta Glycomics Centre





Areas of Application

- Excipients
- Drug delivery
- Rescue medicines

Competitive Advantages

- Monodisperse, single molecule excipients with variable cavity sizes and linker lengths
- Polyanionic, highly water soluble and do not form self-inclusion complexes
- Very strong binding affinities for some group of medicines
- Proprietary “catch and release” technologies for fast binding affinity determination and screening of drug candidates for inclusion of mass spectrometry
- Lower viscosity, higher solubility than commercial excipients
- Low toxicity

Stage of Development

- KG scale synthesis demonstrated and validated with an external partner
- No toxicity in animal models based on one time maximum injection and hemolysis experiments
- Lead compound is currently being characterized as an excipient with a CRO

Intellectual Property Status

Patent Issued – US 9,950,080B2