



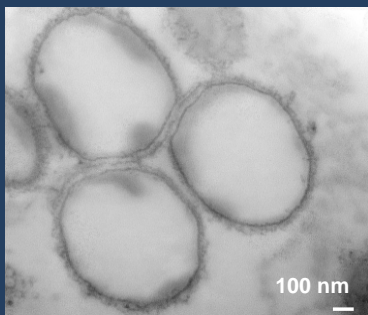
Degradable Hollow Microspheres for Targeted Therapeutic Delivery

Technology Highlights:

Platform vehicle for gene and protein deliver

Excellent loading efficiency and capacity

Cost effective & scalable production process



Non-toxic & biodegradable

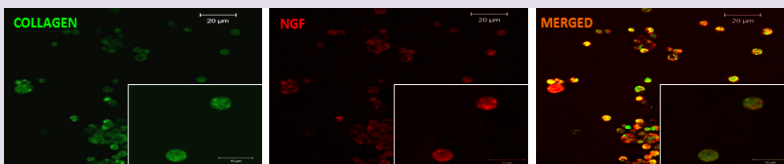
Flexible size and surface chemistry

Suitable for local or systemic delivery

Market opportunity

Safe and effective mechanisms for the drug-treatment of most diseases are significantly compromised by a technological **inability to deliver optimal concentrations of the therapeutic to the required tissue**. Recent advances in 'Nanotechnology' have raised significant hope that solutions to this physiological obstacle are on the horizon. Such a solution would be in a strong position to capitalise on the lucrative drug delivery market, anticipated to reach **\$175.6 billion** by 2016 (*BCC Research*).

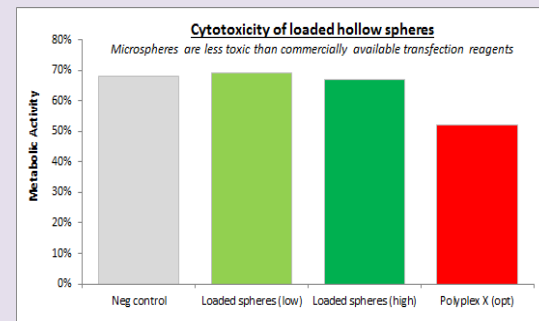
An inter-disciplinary Research team, led by **Professor Abhay Pandit**, has developed a novel, robust process for producing hollow microspheres of defined size and shape using a range of biocompatible materials, including collagen, elastin, chitosan and hyaluronan. Extensive studies show the microspheres to be non-toxic and deliver a significant load to target tissue for most forms of therapeutics including **nucleic acids** and **protein-based drugs**.



ELISA analysis demonstrates a 90-99% loading efficiency and a loading capacity up to 10µg of protein per mg of collagen (microsphere) can be achieved. Fluorescent images of Primary cells (DRG) are illustrated above.

Stage of development

The microsphere fabrication process is extensively validated for a wide range of natural biopolymers. A capability to modulate the release of therapeutics has been demonstrated *in vitro* with various human cell lines. Pre-clinical studies are ongoing in a number of pathological murine disease models. IP is protected by patents filed in multiple jurisdictions and are solely owned by NUI Galway.



Objective

We are interested in engaging with potential investors and business partners with an interest in licensing or commercialising high potential technologies.

If you are interested in learning more about this opportunity please contact:

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