

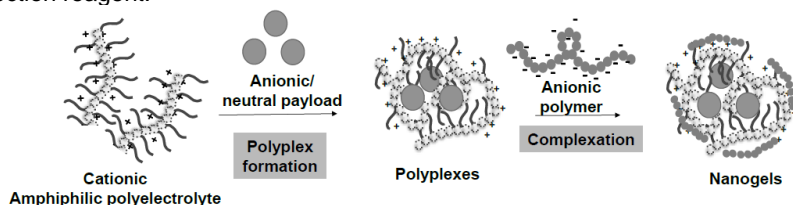


Nanoformulation for Delivery of siRNA, miRNAs, and sgRNAs

TECHNOLOGY AVAILABLE FOR TRANSFER

UNMET NEED AND OPPORTUNITY

Intracellular delivery of genes (especially siRNA, miRNA, sgRNA) is pivotal to achieve the intended efficacy to act against the disease. In laboratory-based studies, intracellular delivery of small and large nucleotides is a fundamental practice. Various delivery system based on nanoparticles or otherwise are available in the market. But the efficacy of most of those systems is compromised due to variations in pH and/or has high biotoxicity and different system are to be employed with the change in chemical nature of the cargo. There is no universal delivery system available in market that is instrumental in delivery of siRNA, miRNA, sgRNA using the same composition. Also, the stability and delivery efficacy are compromised in physiological body fluids due to presence of proteases and nucleases. The present technology overcomes all such limitations to establish itself as state-of-the-art transfection reagent.



UNIQUE SELLING PROPOSITION

- A nanogel formulation as delivery system for siRNA, miRNA, and sgRNA with lesser biotoxicity and higher hemocompatibility than current formulations.
- Can deliver siRNA, miRNA, sgRNA across different cell types.
- Easy formulation of the delivery cocktail, just mix, and add to cells.
- Highly efficient intracellular delivery of entrapped cargo to a wide variety of cells of mammalian, bacterial and plants.
- High stability of cargo loaded nanogel even at acidic pH.
- Can also deliver dsRNA effectively to plants.
- Can deliver siRNA to the mice gut on oral delivery

INTELLECTUAL PROPERTY

Patent Application is filed in India.

STAGE OF DEVELOPMENT

Currently develop and validated at laboratory scale and ready for scaled up as per the industry requirement.

LICENSING OPPORTUNITY

BCIL is looking for suitable industrial partner for commercialization of this nanotechnology for delivery of biomedical cargos.

TECHNOLOGY

- A nanogel formulation composed of amphiphilic cationic polyelectrolytes (ACP), anionic polymer along with aqueous/organic solution of the cargo to be delivered.
- The particle size of the nanogel is between 100-300 nm without the cargo, and 150-300 nm with encapsulated cargo.

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