

STARMAT TECHNOLOGIES

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A FLEXIBLE CHEMISTRY PLATFORM FOR SAFE EFFICIENT GENE THERAPY DELIVERY



BUSINESS SUMMARY:

Developers of gene therapy treatments are actively searching for non-viral delivery technologies for greater tolerability, re-dose potential and effectiveness.

Having developed a family of novel polyamino acid materials, StarMat aims to revolutionize the formulation and delivery of mRNA gene therapies by exploring the inherent biocompatibility, power and flexibility to configure polyamino acid chemistry for more targeted, effective, safer delivery of genetic medicines which can be re-dosed.

TEAM:



Dr Sarinj Fattah
Academic Lead



Mike Mulcahy
Business Lead

MARKET OPPORTUNITY:

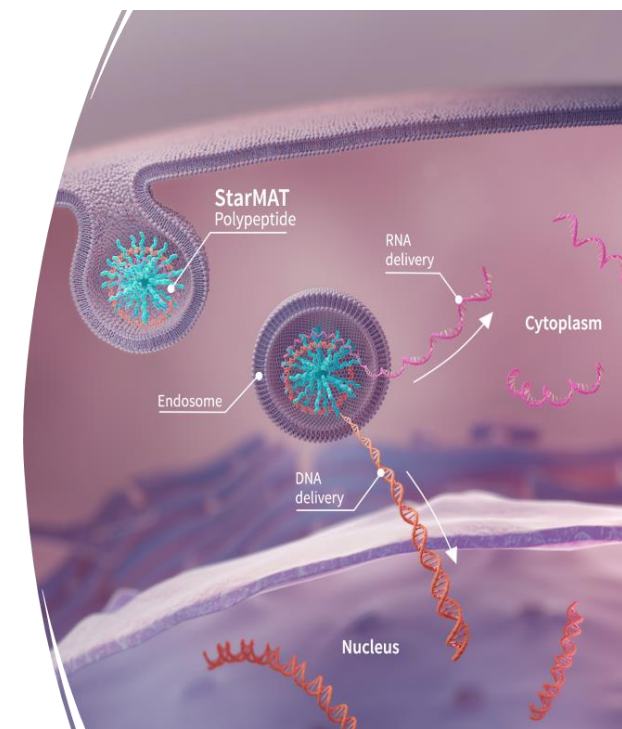
- Renewed interest in mRNA therapeutics and increasing demand for better targeted and stable delivery systems
- Deactivated viruses, the traditional delivery vehicle for therapeutic genes, cannot be used for up to 60% of patients due to immunogenic response and is not recommended for re-dose.
- Despite recent progress with advanced gene delivery technologies, significant development issues with clinical translation remain.
- StarMat has potential for safe, efficient targeted gene therapy delivery with low immunogenicity risk and high re-dose potential.

MARKET READINES

- Significant in-vitro data and preliminary in-vivo data available
- Product development plan includes accelerated regulatory strategy for rare disease therapeutic for US and Europe
- Patent application filed
- 2020 Enterprise Ireland Commercialisation Fund

CUTTING EDGE TECHNOLOGY:

- Versatile and tunable poly amino acid platform to optimize for payload, target & release profile
- Scalable CMC
- Controlled polyplex formulation using microfluidics
- High loading and excellent stability under ambient conditions
- Analytical Characterization of polypeptide NP to EU-NCL
- Versatility demonstrated for nucleic acid cargos (siRNA, mRNA, pDNA), proteins, small molecule.



FUNDING:

- 2023 Follow on Commercialisation Fund Approval

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