ExCulture

Animal-free, bio-based, alternative heparin

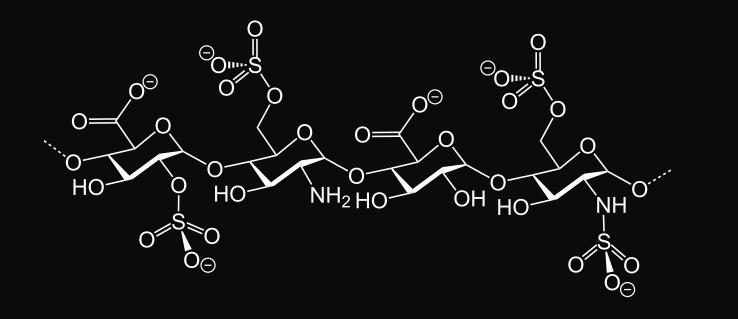
Email: aisling@exculturebiotech.com Phone: +31 6 1123 7832

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Aisling Foley Co-founder (CEO)

Heparin - the world's most common blood thinner



- Cardiovascular disease
- Surgery 0
- Hemodialysis 0

 Heparin is used by approximately 140 million patients/year (1) for:

Current heparin supply

• Global shortage since 2017

- Reliance on animal sources:
 - 1 billion pigs/year
 - 60 % global dependency on China

• Epidemics e.g. African Swine Fever

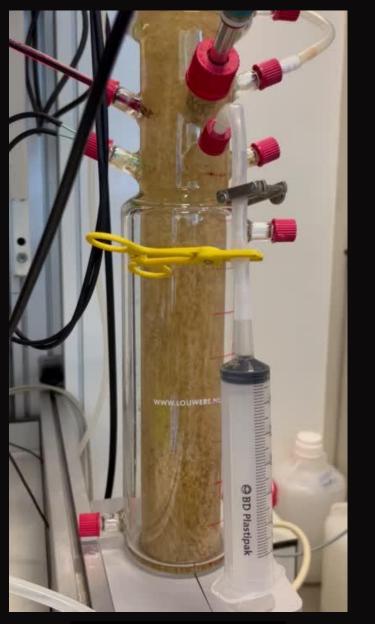
'07/'08 contamination crisis





Our fermentation bioprocess

Fermenter



ÍUDelft

- Patented innovation: WO2020085903
- **Controlled process:** precise, animal-free manufacturing
- 10x greater purified yield: Significant efficiency increase over porcine heparin production

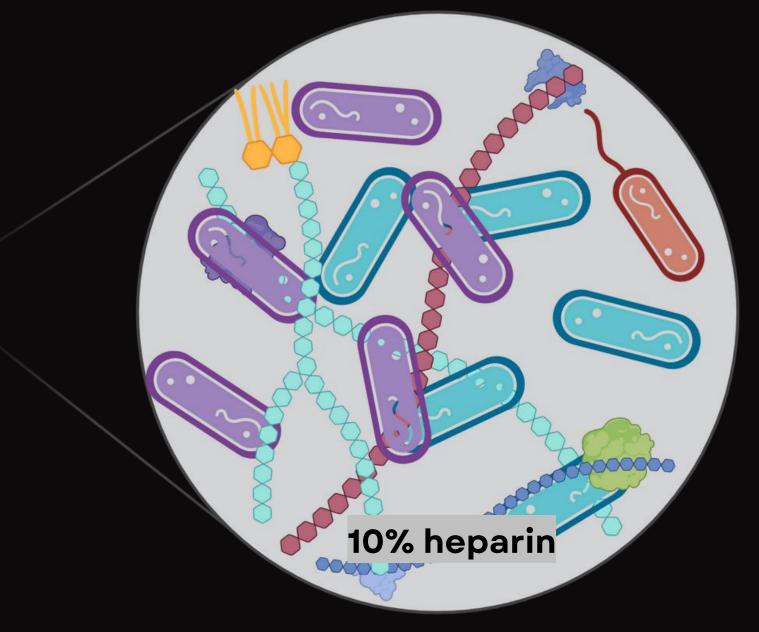
Why is ExCulture's solution revolutionary?



Our fermentation bioprocess

Microorganisms/Glycoconjugates

- Aerobic granules containing microorganisms
- Fed with nutrients to select for strains that produce glycoconjugates like heparin.
- The current purity is 50% ongoing development of a purification process

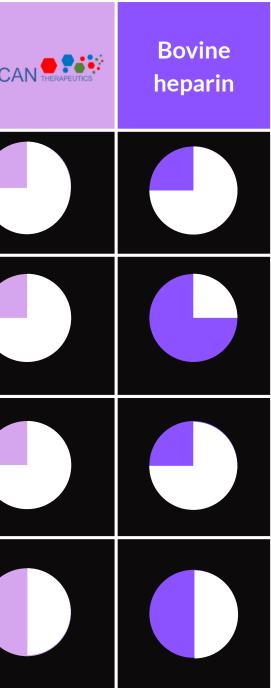




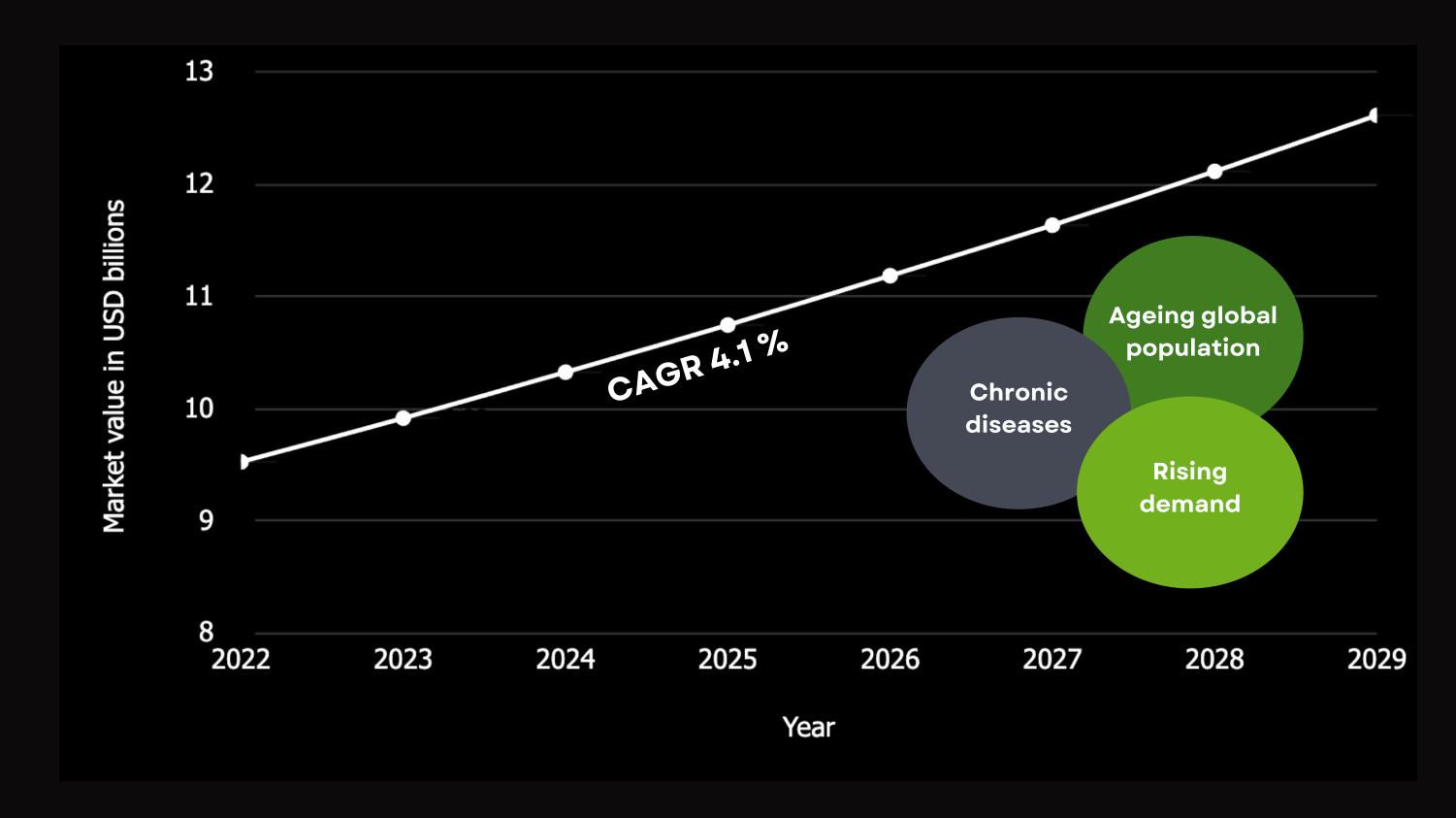
Competition

Chemo-enzymatic

Selection criteria	ExCulture	Pig heparin	Optimvia	GLYC
Security of supply				
Scalability				
Cost-effectiveness				
Simplicity of production/processing				



Global heparin market already totals \$10 billion





ExCulture

Our team



Aisling Foley Co-founder (CEO) MSc Chemistry & Business



Ilaria Poledri Co-founder (CSO) MSc Biotechnology & Business



Jisk van der Meer Fermentation Scientist MSc Life Science & Technology



Guus Scheefhals Management Advisor MSc Pharmacy

Our Advisors



Professor Irwin Reiss Medical Advisor Erasmus MC



Associate Professor Yuemei Lin Scientific Advisor TU Delft





Jan-Willem Eleveld **Commercial Mentor** Founder Norman Health

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Professor Mark van Loosdrecht

Scientific Advisor

TU Delft



Ronald Eimers CMC Consultant Former CMC Director Micreos



Milestones

2022













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planet b.io

2023

Venture Challenge













Business plan roadmap

Expect to be covered by Pre-seed financing €1.1 million		Seed financing €10 million for development to end of Phase I clinical trial					
2024		2025		2026	2027		
Chemical characterisation	System design	studies for scale up			Phase I Clinical Trials	Exit	
Biological Mode of Action	Thrombosis on	a chip studies					
Safety and Efficacy testing		Beginning process production under GMP					
Purification protocol developed		ln-	vivo pharmacologio				
Design freeze bioproces		Clinical plan for IND application					
Anticipate Patent filing		On-going work to develop relationships with potential customers/partners					
Scientific Advice meeting							
Seed financing round opens Q2 202		24					
Τε	am growth						

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Aisling Foley: aisling@exculturebiotech.com Ilaria Poledri: ilaria@exculturebiotech.com

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