

# GELX: INKURE

INK FORMULATED FROM BIOPOLYMERS DERIVED FROM COLD-WATER MARINE SPECIES, FOR USE IN HIGH RESOLUTION 3D BIOPRINTING.

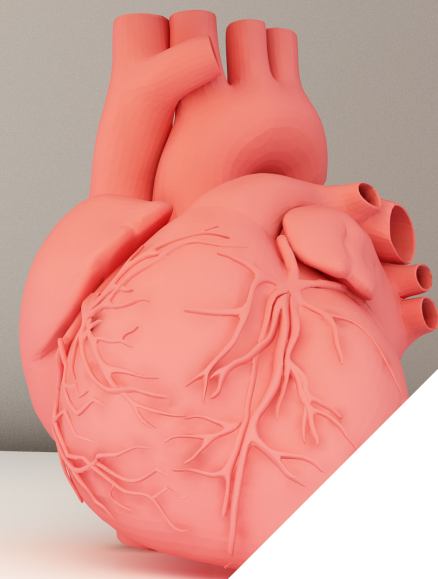
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## MARKET

In 2016, the 3D bioprinting market size was valued at USD 411.4 million and is expected to grow at CAGR of 26.5% between 2016 and 2021, reaching a size of USD 1,332.6 million. The high growth rate is due mainly to the growing demand for organ transplantation and population ageing. North America and Europe are the leading markets, with over 70% combined market share. The end-users are mainly pharmaceutical and biotechnology companies, academic and research institutes, and contract research organizations.

## UNMET NEED

The reconstruction or repair of tissue or organs with proper functionality requires the generation of different types of cellular patterns, with a high precision level and in a three-dimensional context that's very hard to reproduce. Not only is it necessary to reproduce the structure's and the tissue's own cellular organization, but also the vascular networks necessary for feeding the tissue once it has been printed and implanted. 3D printing, and more specifically 3D bioprinting, is currently the best available technology when it comes to generating cellularized and irrigated bio-structures necessary for the reconstruction or repair of tissue or organs. The main component of 3D bioprinting is the bio-ink, which is crucial for the development of functional organs or tissue structures. These bio-inks require specific properties and should consider both the biocompatibility and the printing method.



Universidad de

**los Andes**



**DIRECCIÓN  
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## SOLUTION

Formulation of bio-ink for high resolution 3D bioprinting of tissues and organs based on biopolymers derived from cold-water marine species. The biocompatible bio-ink allows growth and differentiation of various types of cells.

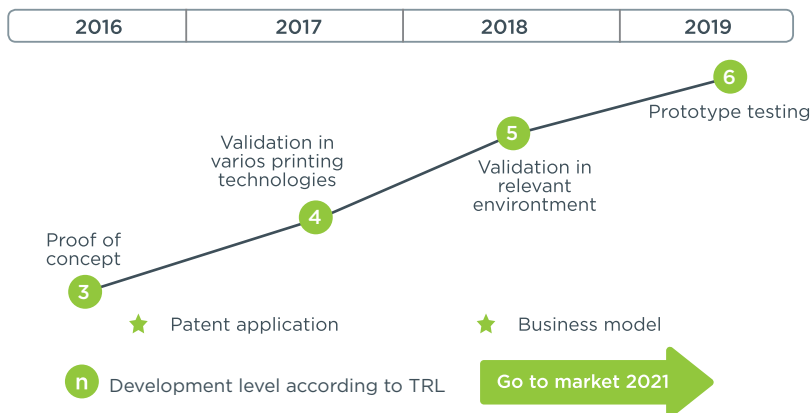
## ADVANTAGES

- > For very precise impression.
- > Mechanically stable post-printing.
- > Capable of containing a high cell density.
- > Allows cellular differentiation.
- > Compatible with various 3D printing technologies.
- > Main resource for the production of the bio-ink is considered waste in the aquaculture industry.

## INTELLECTUAL PROPERTY

Provisional patent filed.

## STATE OF DEVELOPMENT



## BUSINESS SUMMARY DEPARTMENT OF INNOVATION

The Dirección de Innovación of the Universidad de los Andes seeks to support, canalize and efficiently manage the results from research conducted at the University to the public and private sector, both national and international. This is done in order to promote the transfer and application of the knowledge generated in the University so as to benefit the society and contribute to the economic development.

> [INNOVACION.UANDES.CL](http://INNOVACION.UANDES.CL)

## PROJECT DIRECTOR

Juan Pablo Acevedo Cox, biologist and Ph.D. in Chemical Engineering, Postdoc in organiz synthesis and protein engineering Max Planck Institute and MIT visiting fellow.

> His areas of expertise include biomaterials, tissue engineering and microfluidic devices.

## RESEARCH TEAM

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