

Cbright Executive Summary

Improving precision in oncologic surgery

Contact Information

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Location

Lisbon

Development stage

Startup

Year founded

2019

Number of Employees

6

Funding Opportunity

1 200 000 €

Use of Fund

20% Product Development & Scale Up
70% Product validation in animal models
10% Intellectual Property

MISSION & VISION

Cbright aims to improve the survival rate and life quality of oncological patients.

Cbright will help medical doctors to improve the outcome of oncological surgery by providing better tools for Fluorescence Guided Surgery (FGS). We will eliminate positive surgical margins in oncologic surgery reducing the need for adjuvant therapy (radiotherapy, chemotherapy) and the costs for the health care system.

PROBLEM/OPPORTUNITY

Incomplete tumor removal upon oncological surgery requires additional treatment to avoid tumor recurrence. Within the European Union, there are around 150 000 cases of incomplete tumor removal every year with a total cost of 1.47 billion € due to adjuvant therapy and extra surgery.

Incomplete tumor removal is a consequence of poor contrast between tumor and the surrounding healthy tissue. Cbright is a fluorescent highlighter that will improve the tumor to healthy tissue contrast.

Cbright is primarily targeting Hospitals offering a reduction in the time and cost of surgical procedures and an improvement in the outcome of oncological surgery.

SOLUTION/PRODUCT

Cbright is a tumor highlighter to distinguish cancer from healthy tissue in FGS. Our highlighter is based on a disruptive nanomaterial design in opposition to current solutions based on a molecular design. The innovative design improves brightness, stability, tumor contrast and observation depth. When compared with the current solutions in the market, and also those on clinical trials. Cbright can be conjugated with different tumor markers to highlight specifically different tumor types. Injection into the patient prior to surgery, will provide the means to guide in situ and in real-time the surgeons to fully eliminate the tumor.

POTENTIAL RETURN/REVENUE MODEL

Our revenue model stands from selling Cbright conjugated with tumor-specific markers to Hospitals. The market of FGS reagents and devices is not established yet. We can estimate that it will be somewhere in between the market for Near-Infrared Imaging (731 M€ by 2023 according with Markets and Markets ©) and the market for Optical Imaging Reagents (7 billion € by 2022 according with bccResearch ©) both expected to grow substantially within the next five years at 10-14% CAGR.

COMPETITION

Current competitors are molecular dyes that either lack stability (ICG and 5ALA) or cannot provide a large observation depth (Fluorescein and Bodipy based dyes). The products on clinical trials (IRDye-800 and IRDye-775) have improved observation depth but they are unstable under prolonged exposure to light. More importantly, none of these products are well-adapted to future developments in devices for FGS that will be driven by the need to identify microscopic tumor margins deep within tissues. Our preliminary validation with medical doctors has substantiated this product as an interesting tool for increasing the precision of fluorescence guided cancer surgeries.

EXECUTION PLAN/GO TO MARKET STRATEGY

Cbright will be sold conjugated with specific tumor markers that recognize different types of human cancer. Our product will reach the market via specialized distributors that will deliver this safe, "ready-to-use" solution, to Hospitals and Clinics worldwide.

Cbright is at the "research to prove feasibility" level. We have a computational estimation that our nanomaterial design can lead to a product with the expected properties. Our critical path is the design of an efficient synthetic procedure, the testing of the highlighter alone in animal models and the testing of the highlighter conjugated with the tumor marker in animal models and patients. We need to increase the critical mass to ensure we outperform the competition. We need to involve more medical doctors to successfully validate this product. We need to consult with developers to ensure the product is fit to future devices.

FINANCIALS

We are requesting 1.2 Million € to produce a proof-of-concept, perform its biological validation and upscale its production in a faster way. We envision a gross profit of about 3 Million € in the second year of sales of the product and potentially reaching a 10 Million € gross profit in the fourth and fifth years.

THE TEAM/RELEVANT EXPERIENCE

Our team is experienced in the development of fluorescent dyes and nanomaterials for biomedical applications. We have two co-founders: Ermelinda Maçôas, experienced in the development of fluorescent dyes for imaging of thick biological objects and Catarina Nabais, a biomedical researcher expert in optical and electron microscopy. We have four collaborators in specific tasks; two internationally recognized leaders in R&D of nanomaterials for biomedical applications and nanographenes; one molecular biologist that will perform the first performance tests in thick biological tissues and a medical doctor working with FGS that will oversee the prototype testing in animal models.