MATWIN
MATURATION & ACCELERATING TRANSLATION **WITH INDUSTRY**

TECHNOLOGY OFFER

SUPPORTING INNOVATION AND TECHNOLOGY TRANSFER IN ONCOLOGY

DIAGNOSTIC

SPIDERMASS

GUIDED SURGERY OF CANCERS BY REAL-TIME MASS SPECTROMETRY

CONTEXT & BACKGROUND

It is known for cancers that there is a tight relation between patient's favorable evolution and the capacity to remove the totality of cancer cells. Despite the large panel of different technologies available in the operating room, it is still extremely difficult for surgeons to appreciate if they have totally removed the tumor and if they have not missed distance micro-nodules. For grading surgeons have currently to wait under intra-operative conditions for the results of the pathologists in extemporaneous which generally require about 30 min.

INNOVATIVE COMPONENT & TECHNOLOGY

SPIDERMASS is an instrument allowing the surgeons in-real time during the surgery to define the tumor margins, determine the existence of potential secondary tumor sites and get information on the potential aggressiveness of the tumor through tumor grading

SCOPE

Surgery of cancer

KEYWORDS

Real Time Monitoring, Mass Spectrometry, in-vivo Diagnosis, guided surgery

OBJECTIVES

To test and validate the v1 prototype of the hardware in pre-clinical conditions in combination with its molecular databanks

DEVELOPMENT & MATURATION STAGE

Technology Readiness Level: TRL 4 "Component and/or breadboard validation in laboratory environment" A first prototype has been developed in order to provide a proof of concept and to optimize physical parameters. Ex vivo tissue sections were analysed.

TARGET POPULATION

Patients with cancers

TARGET PROFILE

Cancer diagnosis and guided surgery

STRENGHTS & COMPETITIVE ADVANTAGES

Novel technology based on molecular signature, guide the surgeon act (definition of tumor margins and tumor grading), Low invasiveness, real time diagnosis and treatment. No concurrence in low invasiveness

INDUSTRIAL APPLICATIONS & OPPORTUNITIES

Clinics, operating room, oncology, real-time diagnosis, molecular guided surgery, treatment, personalized medicine. Veterinary.
Opportunities : add the SPIDERMASS to surgical robot

INTELLECTUAL PROPERTY & PATIENT CO-OWNER(S)

Patent on the hardware system: September 22 2014, FR145825, Université Lille 1
IP will be filed on the software aspects and the different molecular banks

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