A Real-time Intraoperative Fluorescent Imaging Device for Guided Surgical Excision of Microscopic Residual Tumors

Tech ID: 25720 / UC Case 2014-030-0

INVENTION NOVELTY

This novel real-time imaging device can provide precise and rapid pathological imaging information of the tumor area by utilizing fluorescent or luminescent markers within the body to ensure complete surgical resection.

VALUE PROPOSITION

Complete excision of all diseases especially early-stage cancers is very critical; therefore, leaving any tumor foci behind is the primary cause of cancer recurrence. Current surgical guided imaging modalities such as MRI, Ultrasound, CT, Mammography, or standard microscope/fiber optics have poor resolution and limited visualization of tumor cavity. This presented real-time intraoperative fluorescent imaging device can scan and identify residual tumors with a customized probe and help clinicians remove them in a single operation.

Additional advantages of this invention include:

- Rapid and detailed imaging of entire tumor surface area and its cavity
- Can be bent to form a 3-D or multi-planar structure to obtain a wide-angle view of the tumor bed
- Significantly save the costs of reoperation

TECHNOLOGY DESCRIPTION

Researchers at UC, San Francisco and Berkeley have developed a novel *in vivo* medical visualization system which uses a customized probe, external light source, and fluorescently conjugated molecules to help physicians definitively identify tumor location in a patient. For example, the patient's diseased area is labeled prior to surgery by systematic injection of biological markers. In the probe, an array of microlens will gather and focus the light from the illuminated cells before an imager translate it to a signal alerting the clinician various aspects of disease tissue simultaneously.

LOOKING FOR PARTNERS

To develop & commercialize the technology as a real-time imaging-guided medical device to help physicians precisely remove microscopic residual tumors

CONTACT

Abdalla A. Saad

abdalla.saad@ucsf.edu

tel: .

INVENTORS

- Anwar, Moshiur M.
- Boser, Bernhard
- Park, Catherine C.

OTHER INFORMATION

KEYWORDS

Surgical guided imaging, Medical device, Probe, Biological biomarkers, Microlens, Oncology, Real-time, Intraoperative imaging, Fluorescent, Imager

CATEGORIZED AS

- **Imaging**
  - Medical
- **Medical**
  - Devices
  - Disease: Cancer
  - Imaging

RELATED CASES

2014-030-0

STAGE OF DEVELOPMENT

Proof of Principal

DATA AVAILABILITY

Prototype

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,576,580	02/14/2023	2014-030
United States Of America	Issued Patent	10,772,504	09/15/2020	2014-030
United States Of America	Issued Patent	9,820,653	11/21/2017	2014-030
European Patent Office	Published Application	EP3046456A	07/27/2016	2014-030

Additional Patent Pending

ADDRESS

UCSF

Innovation Ventures

600 16th St, Genentech Hall, S-272,

San Francisco,CA 94158

CONTACT

Tel:

innovation@ucsf.edu

https://innovation.ucsf.edu

Fax: