Real-Time Virtual Histology Biopsy of Tissue

Tech ID: 33684 / UC Case 2023-748-0

BRIEF DESCRIPTION

A revolutionary laser-based micro-biopsy tool designed for minimally invasive, precise tissue sampling and real-time histological analysis.

FULL DESCRIPTION

Researchers at UC Irvine have developed a technology introducing a flexible, laser-based micro-biopsy tool designed for the intraoperative biopsy of various tissue types/sites. It allows for bloodless collection and rapid processing of tissue samples, integrating multi-modal imaging to provide real-time "virtual histology" analysis. This approach aims to improve surgical precision, expedite diagnostic processes, and enhance patient outcomes by enabling the immediate evaluation of tumor margins and reducing the need for repeat procedures.

SUGGESTED USES

- Intraoperative evaluation of tumor margins during cancer surgery.
- Minimally invasive biopsy collection for various types of cancers, including metastatic colorectal cancer.
- Real-time diagnostic tool to aid in the selection of targeted therapies based on rapid genetic and molecular analysis.
- Enhanced precision in tissue sampling near delicate structures, preserving healthy tissue and improving surgical outcomes.

ADVANTAGES

- Minimally invasive, bloodless tissue collection, reducing patient risk and recovery time.
- Real-time "virtual histology" enables immediate analysis of biopsied tissue, supporting rapid decision-making during surgery.
- Precise cutting and rapid coagulation, minimizing thermal damage to surrounding tissues.
- Compatible with traditional histology and advanced diagnostic techniques, enhancing the scope of intraoperative evaluation.

PATENT STATUS

Patent Pending

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OTHER INFORMATION

CATEGORIZED AS

- **Imaging**
  - Medical
- **Medical**
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