

## Method for High-Throughput Microdissection and Analysis of Biological Samples

### Summary

The National Cancer Institute's Laboratory of Pathology is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize a method for target-activated microdissection.

### NIH Reference Number

E-113-2003

### Product Type

- Devices
- Diagnostics

### Keywords

- pathology
- microdissection

### Collaboration Opportunity

This invention is available for licensing.

### Contact

- Jaime Greene  
NCI TTC

[greenejaime@mail.nih.gov](mailto:greenejaime@mail.nih.gov) (link sends e-mail)

### Description of Technology

The National Cancer Institute's Laboratory of Pathology is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize a method for target-activated microdissection.

A variety of techniques have been used to micro-dissect specific cells or cell populations from a histological sample under direct microscopic visualization. Traditional microdissection techniques involve painstaking manual dissection using needles or other micro-manipulation devices to isolate individual cells based on histologies.

This analysis tool performs specific target-activated transfer from a biological sample (i.e., tissue) that can be automated for high-throughput analysis. The method employs a

localized reagent, such as an absorptive stain, that allows micro-adhesion of desired cellular material in a tissue sample to a transfer surface such as a thermoplastic polymer film. The energy from a light or heat source causes the adhesion of the target cells to the thermoplastic transfer surface. The transfer surface is activated from within the target, for example, by heat. Subsequent separation of the film from the tissue section selectively removes the adhered target. This in situ activation can be achieved by exposing the biological sample to an immunologic reagent that specifically binds to the target.

Further R&D Needed:

- Optimization of an instrument for target-activated microdissection.
- Evaluation of cellular targeting methodologies.

### **Competitive Advantages**

- Automated system for high throughput microdissection and analysis of biological samples
- Does not require visual detection or manual dissection

### **Inventor(s)**

[Robert Bonner \(NICHD\)](#), [Nicole Morgan \(NIBIB\)](#), [Thomas Pohida \(CIT\)](#), [Philip McQueen \(CIT\)](#), [Randall Pursley \(CIT\)](#), [John Kakareka \(CIT\)](#)

### **Development Stage**

- Discovery (Lead Identification)

### **Patent Status**

- **U.S. Patent Filed:** U.S. Patent Application Number
- **Foreign Filed:** WO 2 - Patent Application

### **Therapeutic Area**

- Cancer/Neoplasm

### **Updated**

Wednesday, January 25, 2023

**Source URL:** <https://techtransfer.cancer.gov/availabletechnologies/e-113-2003>