Spatial Analysis of Multiplex Immunohistochemical Tissue Images

Tech ID: 33565 / UC Case 2024-532-0

ABSTRACT

Researchers at the University of California, Davis have developed a semiautomated solution for identifying differences in tissue architectures or cell types as well as visualizing and analyzing cell densities and cell-cell associations in a tissue sample.

FULL DESCRIPTION

This semiautomated system offers a simplified and powerful solution for tissue imaging analysis. It allows a user to visualize cell density in a tissue sample and can analyze cell-to-cell associations within the tissue sample. It works seamlessly with pre-classified tissue images from various imaging platforms, thereby streamlining the analysis process and enriching research outcomes. Moreover, the system provides a hexagonal heatmap which provides the user with an easy visual representation to evaluate and enhance the understanding of tissue pathology.

APPLICATIONS

- Beneficial for researchers and scientists in biomedical research and pathology
- Can be utilized in clinical applications and labs for detailed tissue analysis
- Potential tool for pharmaceutical companies in drug development and personalized medicine

FEATURES/BENEFITS

- Highly adaptable with various tissue imaging techniques
- Streamlines the analysis process by working with pre-classified tissue images
- Capable of visualizing and quantifying tissue imaging analysis as micro-lesional cell densities
- Enables detailed analysis of cell-cell associations within tissue micro-lesions
- Tool to compare cell densities and spatial distribution within different tissue lesions
- Addresses limitations of simple imaging analysis in multiplex studies
- Provides nuanced understanding of cell distribution within specific lesions Avoids misinterpretations due to sparse or dense target cell populations within the tissue

PATENT STATUS

Patent Pending

CONTACT

Amir J. Kallas
ajkallas@ucdavis.edu
tel: .

INVENTORS

- Borowsky, Alexander D.
- Hooper, Jeffrey
- Mori, Hidetoshi

OTHER INFORMATION

KEYWORDS

imaging diagnostics, immune cell, measurement, multiplexed cancer detection, pathology, tissue assessment, tumor microenvironment

CATEGORIZED AS

- **Imaging**
  - Medical
  - Other
- **Medical**
  - Devices
  - Imaging
  - Other
  - Research Tools
  - Screening

RELATED CASES

2024-532-0

University of California, Davis
Technology Transfer Office
1850 Research Park Drive, Suite 100, ,
Davis,CA 95618

Tel: 530.754.8649
techtransfer@ucdavis.edu
https://research.ucdavis.edu/technology-transfer/
Fax: 530.754.7620