

Spectral Flow Of Organoids

Tech ID: 34500 / UC Case 2025-017-0

VALUE PROPOSITION

As the pharmaceutical industry transitions from traditional tissue-based testing to more sophisticated organoid-based models, there is a growing demand for tools that can provide precise and reproducible analysis of these complex 3D structures.

TECHNOLOGY DESCRIPTION

UCSF investigators developed a technology that integrates organoid models with spectral flow cytometry, resulting in the creation of highly specialized antibody panels tailored for specific tissue types and cancers. This technology allows for detailed and accurate analysis of organoids, enabling applications in biomarker discovery, drug testing, and quality control in organoid production.

RELATED MATERIALS

- ▶ Hysenaj, L., Little, S., Kulhanek, K., Magnen, M., Bahl, K., Gbenedio, O. M., Prinz, M., Rodriguez, L., Andersen, C., Rao, A. A., Shen, A., Lone, J.-C., Lupin-Jimenez, L. C., Bonser, L. R., Serwas, N. K., Mick, E., Khalid, M. M., Taha, T. Y., Kumar, R., & Li, J. Z. (2023). SARS-CoV-2 infection of airway organoids reveals conserved use of Tetraspanin-8 by Ancestral, Delta, and Omicron variants. *Stem Cell Reports*, 18(3), 636–653.
- ▶ Simoneau, C. R., Chen, P.-Y., Xing, G. K., Hayashi, J. M., Chen, I. P., Khalid, M. M., Meyers, N. L., Taha, T. Y., Leon, K. E., Suryawanshi, R. K., McCavitt-Malvido, M., Tal Ashuach, Fontaine, K. A., Rodriguez, L., Joehnk, B., Walcott, K., Vasudevan, S., Fang, X., Mazharul Maishan, & Schultz, S. (2024). NF- κ B inhibitor alpha controls SARS-CoV-2 infection in ACE2-overexpressing human airway organoids. *Scientific Reports*, 14(1), 15351–15351.
- ▶ Haderk, F., Chou, Y.-T., Cech, L., Fernández-Méndez, C., Yu, J., Olivas, V., Meraz, I. M., Barbosa Rabago, D., Kerr, D. L., Gomez, C., Allegakoen, D. V., Guan, J., Shah, K. N., Herrington, K. A., Gbenedio, O. M., Nanjo, S., Majidi, M., Tamaki, W., Pourmoghadam, Y. K., & Rotow, J. K. (2024). Focal adhesion kinase-YAP signaling axis drives drug-tolerant persister cells and residual disease in lung cancer. *Nature Communications*, 15(1), 3741.

PATENT STATUS

Patent Pending

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OTHER INFORMATION

KEYWORDS

organoids, antibody panel, biomarker discovery, drug testing, quality control, cancer

CATEGORIZED AS

- ▶ **Biotechnology**
 - ▶ Other
 - ▶ Proteomics
- ▶ **Medical**
 - ▶ Research Tools
- ▶ **Research Tools**
 - ▶ Antibodies
 - ▶ Other
 - ▶ Reagents
 - ▶ Screening Assays

RELATED CASES

2025-017-0

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