A Fluorescent-Labeled Phage Display Platform: RAPID and BIAS Technologies Transform Antibody Discovery for Therapeutic Development

Tech ID: 34570 / UC Case 2023-174-0

TECHNOLOGY DESCRIPTION

UCSF inventors have developed RAPID (Rare Antibody Phage Isolation and Discrimination), a novel biopanning method that uses fluorescent-labeled phage displayed Fab libraries and flow cytometry to isolate rare, high-affinity antibodies against challenging targets. They also created BIAS (Biolayer Interferometry Antibody Screen), which includes a proprietary in-house algorithm, BATCH, to rank and prioritize binders based on their kinetic off-rates. These innovations address the critical challenge of discovering antibodies for antigens once considered undruggable. Currently in development, this platform offers enhanced screening sensitivity, reduced discovery timelines, and the ability to identify antibodies with superior binding stability. UCSF's pipeline unlocks new therapeutic opportunities in autoimmune diseases, neurodegeneration, oncology, and other complex indications. Ideal for biotech companies, technology developers, and venture capitalists seeking cutting-edge antibody discovery solutions.

RELATED MATERIALS

- Rare antibody phage isolation and discrimination (RAPID) biopanning enables identification of high-affinity antibodies against challenging targets, PMCID: PMC10570357 DOI: 10.1038/s42003-023-05390-0 - 10/12/2023

PATENT STATUS

Patent Pending

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OTHER INFORMATION

KEYWORDS

Antibody discovery, Therapeutic development, Oncology therapeutics, BIAS screening, Fluorescent phage display, RAPID biopanning, Neurodegeneration, Autoimmune diseases, High-affinity binders, Undruggable targets

CATEGORIZED AS

- **Medical**
  - Disease: Autoimmune and Inflammation
  - Disease: Cancer
  - Disease: Central Nervous System

- New Chemical Entities, Drug Leads
- Research Tools
- **Research Tools**
- Antibodies
- Bioinformatics
- Screening Assays

RELATED CASES

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