Human Immune Repertoire Antibody Library

A human antibody library derived from individuals who remained healthy during viral exposure, capturing repertoires linked to natural immune resilience.
It provides stable, fully human antibodies with favourable biophysical properties and broad target recognition.
Validated binders against complex proteins confirm its diversity and utility beyond infectious-disease research.

Background

Human antibody repertoires offer vast therapeutic potential, yet most libraries derive from infected or immunized donors, limiting diversity and stability. Antibodies from naturally resilient individuals provide balanced, cross-reactive immune responses with favourable biophysical properties, enabling discovery across diverse therapeutic and diagnostic targets.

The Problem

Most antibody libraries show limited diversity or lack natural folding.
There is a need for human-derived repertoires that combine natural diversity, stability, and broad applicability for discovery and development.

Invention: Benefits & Application

Professor Ahuva Nissim and her team at Queen Mary University of London have developed a fully human antibody library representing naturally selected immune repertoires from individuals with demonstrated immune stability. This infection-resilience–based approach captures broad, well-behaved antibodies suited for diverse target classes. The library is compatible with phage and yeast display platforms, enabling efficient screening and selection of high-quality, fully human antibodies.

Benefits

- Human-derived repertoire reflecting natural immune balance and stability.
- Broad discovery potential across therapeutic and diagnostic targets.
- Compatible with phage and yeast display systems.

Applications

- Therapeutic antibody and diagnostic discovery.
- Targeting complex or membrane-bound proteins.
- Benchmarking and complementing synthetic antibody libraries.

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