

Designing antibodies for therapy and diagnostics

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Abstract:

The most widely used in vitro technology for animal-free antibody generation is antibody phage display. This method allows to select recombinant monoclonal antibodies in the from universal antibody gene libraries, through a highly customizable selection method named panning. The panning procedure can be designed to reduce unwanted cross-reactivities, to obtain cross species specific antibodies, target post-translational modification or conformation specific antibodies. With this approach it is possible to generate highly specific recombinant human monoclonal antibodies, always documented by their sequence, providing infinite reproducibility. The recombinant format opens the path to new applications or modifications for antibodies, for example as intrabodies or switchable antibodies.

Nowadays, antibody phage display for antibody selection is one of the pillars of therapeutic human antibody generation. In addition, it is progressively replacing animal immunization and hybridoma technology in the generation of diagnostic and research antibodies as well.