AnaptysBio Announces Issuance Of United States Patent Covering Proprietary Antibody Humanization Technology

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Novel methodology leverages somatic hypermutation to rapidly generate humanized therapeutic antibodies with >97% human content

SAN DIEGO, Calif. – AnaptysBio, Inc., a leader in the discovery and development of therapeutic antibodies, announced today that the U.S. Patent and Trademark Office (USPTO) has issued US Patent #8,685,897 broadly covering a novel approach to antibody humanization using somatic hypermutation. Leveraging key advantages of AnaptysBio's SHM-XEL platform, this approach rapidly generates high potency humanized therapeutic antibodies using minimal non-human sequence content. The newly issued US patent is assigned to AnaptysBio and constitutes the 18th patent issuance in AnaptysBio's intellectual property portfolio.

The majority of therapeutic antibodies licensed by the FDA for human use to date have been developed via humanization of murine antibodies. However, historical technologies utilized for humanization have required large non-human segments to be incorporated, resulting in therapeutic antibodies with only 65-90% human content. In addition, historical approaches have been hampered by labor-intensive framework engineering processes required to restore binding potency lost during humanization.

In contrast, AnaptysBio's proprietary humanization methodology is designed to rapidly generate therapeutic antibodies using a single heavy chain complementary determining region of murine origin. Relevant sequence information is directly isolated from murine B cells without the need to generate hybridomas.[1] By concurrently optimizing potency and biophysical properties using its SHM-XEL platform, AnaptysBio has routinely generated humanized therapeutic-grade antibodies with greater than 97% human content in less than 6 months.[2]

"This patent issuance provides AnaptysBio with exclusive ownership to an entirely new paradigm in antibody humanization using somatic hypermutation. We have overcome prior limitations by reducing both the murine content and time required to generate humanized antibody lead candidates," said Hamza Suria, AnaptysBio's president and chief executive officer. "In addition to our fully-human libraries, SHM-XEL based humanization provides a robust avenue for AnaptysBio to develop first-in-class therapeutic antibodies for emerging targets in oncology, inflammation, muscle-wasting disorders and fibrosis."

[1] PLoS One. 2012;7(11):e49458. doi:10.1371/journal.pone.0049458
[2] J Biol Chem. 2013 Mar 15;288(11):7688-96. doi:10.1074/jbc.M112.445502