



AnaptysBio

*Leader in SHM for
Antibody Therapeutics*

FOR IMMEDIATE RELEASE

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**AnaptysBio Expands Global Leadership in Somatic Hypermutation
for Antibody Discovery and Optimization with Newly Issued Patents**

*Coverage for AnaptysBio's SHM-XEL™ Antibody Platform Now Exceeds 55 Issued Patents and
Pending Patent Applications Throughout the World*

SAN DIEGO, Calif. – [AnaptysBio, Inc.](http://www.anaptysbio.com), a privately-held therapeutic antibody platform and product company, announced the issuance of patents in the US and Europe that provide additional coverage for its SHM-XEL™ platform. These patents extend AnaptysBio's leadership in the use of somatic hypermutation (SHM) for the discovery and optimization of antibodies and other proteins.

"AnaptysBio has assembled an extensive global portfolio of intellectual property relating to the use of SHM for generating therapeutically useful antibodies and other protein engineering applications," said Tom Smart, chairman and CEO. "The claims in our patent portfolio range broadly from the use of SHM in any cell type to generate modified antibodies, to performing SHM for engineering any protein in certain cell types such as lymphoid cells, including the DT40 and Ramos B lymphocyte cell lines."

Recently Granted Patents within AnaptysBio's Intellectual Property Portfolio

Earlier this month, US Patent No. 7,820,442 was issued by the United States Patent and Trademark Office with claims broadly covering the use of SHM in prokaryotic cells to generate novel antibodies. Prokaryotic cells, such as bacteria, are an essential component of many platforms used by the biopharmaceutical industry to discover and optimize antibodies.

Earlier this year, European Patent No. 1117774 was granted by the European Patent Office with claims broadly covering the use of SHM in mammalian cell lines of lymphoid lineage to modify a gene of interest so the protein encoded by that gene will possess desirable activities or other properties. Related patents have previously been issued in the US, Canada, Australia and Japan.

AnaptysBio's overall intellectual property portfolio is comprised of three important layers of protection: (1) the patented pioneering discoveries of the company's founding scientific academic advisors that have been exclusively in-licensed by AnaptysBio, (2) the preferred embodiments invented by AnaptysBio's internal team of scientists in the process of creating the highly versatile and broadly applicable SHM-XEL™ platform, and (3) certain associated know-how that AnaptysBio has elected to maintain as trade secrets. At present, AnaptysBio's intellectual property portfolio includes more than 55 issued patents and pending patent applications throughout the world.

SHM's Key Role in Antibody Formation

SHM is the natural process that occurs in a specific cell type of the immune system (B-cells) during the selection and maturation of antibodies. This process is the means by which the body generates potent antibodies to fight disease.

SHM is a controlled process of introducing variability into the binding region of an antibody gene sequence and is catalyzed by the B-cell specific enzyme, Activation-Induced Cytidine Deaminase (AID). Antibody genes have evolved to be naturally templated to attract AID to the binding region. In the binding region, AID recognizes signature DNA motifs and initiates the process of SHM by deaminating a specific DNA residue (deoxycytidine) resulting in a different residue (deoxyuridine) that is not normally found in DNA. This change is recognized as a mistake by the cell, which attempts to correct the mistake by introducing additional DNA sequence modifications. This process of SHM results in non-random changes being introduced at functionally significant positions in the binding region sequence of the antibody. As a result, a large diversity of antibodies with different binding properties is created. The best antibodies for binding to a particular disease target are then selected by the body and produced in larger quantities to create a uniform army of antibodies well suited for fighting the disease.

The pioneering work of AnaptysBio's founding scientific advisors was fundamental to elucidating the mechanism and role of AID in SHM, and the SHM-XEL™ platform is based on their insights.

AnaptysBio's SHM-XEL Platform™

The SHM-XEL™ platform is an *in vitro* antibody discovery and optimization platform that couples SHM with mammalian cell display in full-length or fragment formats. Desired antibody properties are evolved by co-expression of AID with antibody heavy and light chains in mammalian cells where the intact antibody is simultaneously displayed on the cell surface and secreted into the growth medium. Selection of antibodies with optimal properties is achieved using high-throughput screening methodologies. This versatile platform can be used for both discovery of new antibodies and optimization of existing antibodies to generate candidates with desired binding and specificity properties for therapeutic applications.

About AnaptysBio

Founded in 2005, [AnaptysBio](http://www.anaptysbio.com), Inc is a privately-held therapeutic antibody product company and the leader in the use of somatic hypermutation, or SHM, for antibody discovery and optimization. SHM is the body's natural process for generating potent antibodies to fight disease. The Company's SHM-XEL™ platform couples somatic hypermutation with mammalian cell display and flow cytometry to generate antibodies for therapeutic applications through an iterative process of natural evolution and high-throughput selection – a process that has been referred to as “naturalizing” antibodies. This versatile platform can be used for both discovery of new antibodies and optimization of existing antibodies to generate candidates with desired binding and specificity properties for therapeutic applications. AnaptysBio has established broad intellectual property around the use of SHM, and is currently building a pipeline of novel therapeutic antibody product candidates. For more information, visit www.anaptysbio.com.

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