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New Antibody Company Hires CEO, Plans Move To Next Level**By Jim Shrine
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A new player in the antibody space is looking to fill voids left by a string of acquisitions that have reduced the field, and licensing deals that have reduced target availability.

Anaptys Biosciences Inc., which became operational about a year ago, said Monday it brought on industry veteran Tom Smart as chairman and CEO. The San Diego-based company is using its Omnitope System, which exploits somatic cell hypermutation and other technologies, in the development of monoclonal antibodies, therapeutic proteins and other products.

"The antibody space continues to be a very important source of new medicines," Smart told *BioWorld Today*. "There is a need and opportunity in that field," with leading companies such as Abgenix Inc. and Cambridge Antibody Technology Group plc having been acquired, while buyouts of MedImmune Inc. and Morphotek Inc. are under way.

"We've come up with a new approach to antibody discovery and protein optimization," Smart said. "This approach is significantly unencumbered relative to the other technologies as far as third-party intellectual property and corporate relationships. This creates a spectrum of business possibilities for Anaptys."

The Omnitope System uses the somatic cell hypermutation, or SHM, technology with directed evolution and computational design technologies to produce antibodies against new, intractable and already-validated targets.

The company said the system consists of semi-synthetic libraries of fully human antibodies optimized for SHM and based on the initial in vivo diversity created by germline recombination; a Mutator vector system targeting SHM to create a family of optimized antibodies; and smart epitope selection, a method for creating optimized antibody candidates against functional sites on the target protein.

Smart, most recently chief business officer at antibody company XOMA Ltd., was brought on to lead the company founded by a number of other industry veterans, including William Boyle, president and chief scientific officer; Andrew Cubitt, vice president, business development; and board member Kevin Kinsella, managing partner at Avalon Ventures; and board member Nick Lydon, founder of Granite Biopharma LLC.

Boyle said the basis for the company came from discussions he and colleagues had concerning SHM technology as well as scientific publications from academic institutions. In the summer of 2005, they approached the inven-

tors of relevant SHM technology from the Medical Research Council in Cambridge, England, and from the Albert Einstein College of Medicine in New York. They subsequently secured licenses and incorporated Anaptys, which became operational in March 2006.

Anaptys described SHM as the natural process of mutagenesis that occurs in B cells during the selection and maturation of antibodies.

"There were some very bright individuals thinking about new medical and commercial opportunities," Smart said. "They already had thought about certain approaches," and the publication reinforced certain initial assumptions. "[Boyle] and his colleagues built relationships and convinced them that Anaptys is the right home for exclusively licensing the technologies relevant to their platform."

Boyle told *BioWorld Today* that he grew fond of the antibody modality while at Amgen Inc., and later thought, "How do you put together a platform of the future to make antibodies? During 2005, it became clear how to proceed with making this into a business opportunity."

Avalon Ventures, of San Diego, was the founding venture partner, investing an undisclosed amount in Anaptys. Smart said one of his first priorities as CEO is to secure Series B funding.

The company is not providing details of its programs other than to say it is advancing toward selecting a clinical candidate and is focusing in the areas of inflammation, autoimmune diseases, oncology and infectious diseases. Smart said the technology is broad enough to be applicable not only to antibodies and optimization of therapeutic proteins, but also to areas such as industrial enzymes and modifying DNA sequences.

"We have considerable business flexibility in how we build our pipeline and work with others," Smart said. "Even for some of the existing players in therapeutic antibodies, this could be a nice complement to what they have. There are a number of partnering and business relationship opportunities available."

Among the leading independent antibody companies now, Smart said, are Medarex Inc., XOMA, Dyax Corp. and MorphoSys AG. Given their longevity in the business," he said, "they have many business relationships and licenses to their platforms have been exhausted for" certain targets.

Boyle said Anaptys is the first company to "use this type of technology for this purpose, the natural process of incorporating sequence diversity into antibodies. This is a layer of antibody technology no one has broached yet. It gives us a novel approach, and a way for our company to produce its own fully human antibody drugs."

Anaptys said the Omnitope System can optimize epitope selection, create antibodies with very high affinity and avidity, generate antibodies to intractable targets, identify antibody sequences binding to multiple active epitopes and enable rapid development of fully human antibody drug candidates. ■