

# BioCentury

THE BERNSTEIN REPORT ON BIOBUSINESS™

Article Reprint • Page 1 of 2

## *Strategy*

# Differential calculus

**By Mike Ward**  
Senior Editor

Last week, **Roche** showed its willingness to explore uncharted waters in a pair of deals, one with **Galapagos N.V.** to identify new targets for chronic obstructive pulmonary disease, and the other with **AnaptysBio Inc.** for an antibody optimization platform. The pharma hopes Galapagos will give it the right entry into a therapeutic area in which it just beginning to work. With AnaptysBio, Roche is gaining access to an unproven technology it thinks may one day complement its in-house expertise.

"In both deals we were looking for innovative approaches that will provide medical differentiation," said Eric de la Fortelle, global head of external research and technology for Roche Pharma partnering. "While an early stage deal of the nature of the Galapagos alliance, where they will augment our own effort, is relatively new for us, the AnaptysBio deal is the latest in a long line of deals where we are looking exciting technologies that can complement our in-house biologics discovery toolkit."

Galapagos received €6 million (\$8.7 million) up front to use its SilenceSelect gene knock-down technology to discover and validate small molecule targets for COPD and then screen candidates against them. Roche will have exclusive options to license each compound after candidate selection or the comple-

tion of Phase I testing. Galapagos is eligible for milestone payments that could exceed €400 million (\$580.6 million), plus royalties.

Roche also has an exclusive option to license the COPD targets to develop antibodies against them. The pharma will be responsible for further development and commercialization if the options are exercised.

Roche's inflammation disease biology unit (DBA) was already looking for targets that could lead to disease-modifying therapeutics. But the disruption caused by the shift of the inflammation DBA's center of gravity from Palo Alto, Calif., to Nutley, N.J., prompted the company to engage an external partner to complement the in-house target search.

"The DBA management team decided that to differentiate ourselves in the COPD field, we would need to find and work on novel COPD disease-modifying targets. There was a strong strategic need to extend our reach in validating and acting on COPD targets," de la Fortelle said.

"Finding new COPD targets is a difficult goal, but when our scientists met with the Galapagos team and evaluated their platform and IP, they quickly came to the conclusion that if anyone is going to crack innovative COPD targets, it's going to be them," he added.

*See next page*

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**AnaptysBio,**  
from previous page

Since 2006, Galapagos has signed partnerships with **GlaxoSmithKline plc**, **Johnson & Johnson's** Janssen Pharmaceutica unit, **Eli Lilly and Co.**, **MorphoSys AG** and **Merck & Co Inc.**, some of which have been expanded. Each of the deals has resulted in development milestone payments.

In contrast to the Galapagos deal, the partnership with AnaptysBio covers technology in an area where Roche already has deep experience.

"We have no intention to rest on our laurels because we don't know what we don't know. We are on an open-ended quest to look out for innovative technologies that we believe will make a contribution to our discovery operations," said de la Fortelle.

AnaptysBio is developing a somatic hypermutation (SHM) platform for optimizing antibodies. The platform mimics the natural process of SHM, in which mutations occur in immunoglobulin genes in B cells, introducing sequence variation into the variable region of antibody structures, which are responsible for antigen binding. The result is a large number of antibodies that have different specificities and affinities for a given antigen.

AnaptysBio transfects antibody genes into B cell lines in the presence of activation-induced cytosine deaminase to yield a family of related sequences from which potential lead candidates with desirable characteristics and activities can be selected).

"We think the technology, even though it is very new, is

already advanced enough to make a contribution to our discovery operations. We haven't seen SHM applied to antibody maturation before, and they are the first to push it," said de la Fortelle.

"The potential of the technology to provide medical differentiation is what is important," he added. "Initially, we will look at maturation and optimization of antibodies, but we will also use their technology to enhance properties such as increasing their efficacy, reducing their immunogenicity, or changing their half-lives."

AnaptysBio is responsible for generating antibodies, to which Roche will receive an exclusive worldwide license. The biotech received an undisclosed upfront payment and will be eligible for milestones and royalties.

"It is very possible, if the technology is as productive as we think it could be, we could end up having multiple technology and product deals with them," de la Fortelle said.

***"In both deals we were looking for innovative approaches that will provide medical differentiation."***

**Eric de la Fortelle, Roche**

#### COMPANIES AND INSTITUTIONS MENTIONED

**AnaptysBio Inc.**, San Diego, Calif.,  
**Galapagos N.V.** (Euronext:GLPG; Pink:GLPYY), Mechelen, Belgium  
**Eli Lilly and Co.** (NYSE:LLY), Indianapolis, Ind.  
**GlaxoSmithKline plc** (LSE:GSK; NYSE:GSK), London, U.K.  
**Johnson & Johnson** (NYSE:JNJ), New Brunswick, N.J.  
**Merck & Co. Inc.** (NYSE:MRK), Whitehouse Station, N.J.  
**MorphoSys AG** (Xetra:MOR), Martinsried, Germany  
**Roche** (SIX:ROG; OTCQX:RHHBY), Basel, Switzerland