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STRATEGY

CANBRIDGE CAN-CAN

BY STEPHEN HANSEN, ASSOCIATE EDITOR

Canbridge Life Sciences Ltd.'s deal with Aveo Pharmaceuticals Inc. will see the Chinese biotech developing its first programs outside Asia. But Chairman and CEO James Xue says the company is not deviating from its strategy, which is focused on in-licensing clinical assets from the West to target diseases prevalent in Asia.

In this particular case, it made sense to take rights to Aveo's AV-203 in all territories outside North America because the target indication also plays to Canbridge's experience with Orphan diseases in the West.

AV-203 is an antibody against Erb-b2 receptor tyrosine kinase 3 (ERBB3; HER3; EGFR3) that has completed Phase I testing in solid tumors and is in preclinical testing to treat esophageal squamous cell cancer (ESCC).

China alone accounts for more than half of newly diagnosed cases of esophageal cancer worldwide, and the squamous cell subtype accounts for about 90% of all cases in Asia.

In contrast, esophageal cancer is much less common in Western countries, and is predominantly the adenocarcinoma subtype. In these territories, management's experience developing Orphan drugs will come in handy.

Xue, who founded Canbridge in 2013, was the founding general manager of Genzyme China, a division of Genzyme Corp. (now Sanofi). He helped get three drugs through development and onto the market in China, including the Orphan drug Cerezyme imiglucerase for Gaucher's disease, Thymoglobulin anti-thymocyte globulin for anemia and transplant, and Synvisc hylan G-F 20 for osteoarthritis.

Crystal Xu, senior director and head of clinical development, was Genzyme China's director of medical and regulatory affairs.

Mark Goldberg, Canbridge's acting CMO, was EVP of medical and regulatory strategy at Orphan disease company Synageva BioPharma Corp. (now Alexion Pharmaceuticals Inc.).

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> JAMES XUE, CANBRIDGE

Prior to that, as Genzyme's SVP of clinical development and global therapeutic group head for oncology and personalized genetic health, Goldberg helped develop and get approved Fabrazyme agalsidase beta to treat Fabry's disease, Aldurazyme laronidase to treat mucopolysaccharidosis I (MPS I, Hurler syndrome), Myozyme and Lumizyme alglucosidase alfa to treat Pompe's disease and Mozobil plerixafor to treat non-Hodgkin's lymphoma (NHL) and multiple myeloma (MM).

"It is the same strategy, licensing Western compounds and getting them developed and marketed in Asia," Xue told BioCentury. "I think very naturally the second step is we want to look at how we can leverage those data and export those data to other territories."

"The ideal case is where it is a highly prevalent disease in Asia and a very niche disease in the West. Therefore we can leverage our expertise in both areas," he said.

Xue said examples of other indications that might fit the profile include gastric cancer, liver cancer, nasopharyngeal cancer, hepatitis B virus (HBV) infection and hematological diseases like beta thalassemia.

According to BioCentury's BCIQ database, at least 11 other molecules are in clinical development targeting ERBB3, with at least six in Phase II testing for cancers other than ESCC.

Xue said Canbridge thinks AV-203, now renamed CAN-017, can be best in class based on unpublished preclinical data comparing the molecule with two other anti-ERBB3 mAbs: seribantumab (MM-121) from Merrimack Pharmaceuticals Inc. and patritumab (AMG 888) from partners Amgen Inc. and Daiichi Sankyo Co. Ltd.

Xue said CAN-017 had superior target binding affinity and binding inhibition of ERBB3's ligand neuregulin 1 (NRG1; HRG1), and demonstrated superior tumor growth inhibition in three human cancer cell lines.

Seribantumab is in Phase II testing for breast cancer, non-small cell lung cancer and ovarian cancer, while patritumab is in Phase II testing for breast cancer and NSCLC.

In 2014, Aveo completed a Phase I trial in solid tumors that showed escalating doses of AV-203 were generally well tolerated and led to eight cases of stable disease. Three months earlier, Biogen Inc. declined to exercise its option to gain ex-North American rights; the big biotech had decided to exit cancer in 2010.

Canbridge will be responsible for development, commercialization and manufacturing of CAN-017. Aveo will receive a $1 million payment up front and is eligible for $133 million in milestones, plus royalties.

Xue said Canbridge expects to complete the manufacturing processes for CAN-017 and additional preclinical testing over the next 18 months before starting a Phase I trial in China in 3Q17. A Chinese Phase IIa trial would follow, after which Canbridge and Aveo would negotiate a possible agreement to co-develop CAN-017, with each partner bearing a percentage of the cost of global development activities for their respective territories.

If Canbridge decides to take CAN-017 into Phase III alone, Xue said the company could enroll patients both in Asia and outside Asia to support regulatory submissions in those territories.

He added that because Canbridge is responsible for global manufacturing of CAN-017, having control of the supply chain should make it easier for the company to plan trials and enroll patients in territories outside of Asia.

Canbridge has three previous deals focused only on Asian territories. In 2013 Azaya Therapeutics Inc. granted Canbridge exclusive rights to ATI-1123 (CAN-001) in China, Taiwan and South Korea. The protein stabilized nanoparticle (PSN) formulation of docetaxel is in Phase I testing to treat NSCLC.

In 2014, the EUSA Pharma Inc. unit of Jazz Pharmaceuticals plc granted Canbridge Chinese rights to Caphosol (CAN-002), a supersaturated calcium phosphate rinse to treat oral mucositis in cancer patients.

Last year, Apogenix GmbH granted Canbridge exclusive Chinese rights to develop and commercialize APG101. The soluble fusion protein combining the extracellular domain of CD95 and the Fc portion of IgG has completed a European Phase II trial to treat glioblastoma multiforme (GBM). bc

COMPANIES AND INSTITUTIONS MENTIONED

Alexion Pharmaceuticals Inc. (NASDAQ:ALXN), Cheshire, Conn.
Amgen Inc. (NASDAQ:AMGN), Thousand Oaks, Calif.
Apogenix GmbH, Heidelberg, Germany
Aveo Pharmaceuticals Inc. (NASDAQ:AVEO), Cambridge, Mass.
Azaya Therapeutics Inc., San Antonio, Texas
Biogen Inc. (NASDAQ:BIIB), Cambridge, Mass.
Canbridge Life Sciences Ltd., Beijing, China
Daiichi Sankyo Co. Ltd. (Tokyo:4568), Tokyo, Japan
Genzyme Corp., Cambridge, Mass.
Jazz Pharmaceuticals plc (NASDAQ:JAZZ), Dublin, Ireland
Merrimack Pharmaceuticals Inc. (NASDAQ:MACK), Cambridge, Mass.
Sanofi (Euronext:SAN; NYSE:SNY), Paris, France

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BIOCENTURY PUBLICATIONS, INC.

NEWSROOM
pressreleases@biocentury.com

SAN CARLOS, CA
+1 650-595-5333; Fax: +1 650-595-5589

CHICAGO
+1 312-755-0798; Fax: +1 650-595-5589

WASHINGTON, DC
+1 202-462-9582; Fax: +1 202-667-2922

UNITED KINGDOM
+44 (0)1865-512184; Fax: +1 650-595-5589