IN brief

OncoTrack tests drugs in virtual people

A new European consortium will use next-generation biomarkers to build a virtual patient in which to test colon cancer treatments. OncoTrack, announced in March is one of Europe's largest collaborations, a five-year project involving seven academic institutions and 11 industry partners coordinated by the Leverkusen-based Bayer HealthCare Pharmaceuticals and the Max Planck Institute for Molecular Genetics in Berlin. "This is what is really new here—we will have a virtual patient that we can use to try all possible treatments and see what is likely to work," says the academic coordinator of OncoTrack, Hans Lehrach of the Max-Planck Institute for Molecular Genetics. The project will gather large-scale genomic and epigenetic sequences, as well as tumor phenotypic data, from individuals with colon cancer to provide a detailed characterization of each tumor type. The aim is to improve diagnosis and predict an individual's response to therapy. "We know that colon carcinoma is a very heterogeneous disease, and we want to provide a comprehensive description of this heterogeneity at a genetic level," says David Henderson, the project's coordinator at Bayer. The genome sequences of primary tumors and metastases for each individual will be compared to their germline genome. The genomic data will be complemented with a characterization of DNA methylation, the transcriptome and various cell physiological parameters. "The inclusion of methylome analysis can be expected to significantly enhance our ability to target a wider spectrum of cancer-specific processes," says Stephan Beck of University College London, who oversees the epigenetics part of OncoTrack. To convert these combined phenotypic and genotypic data into clinically useful information, all experimental results will be fed into a computer model of the patient's cancer cell to help identify signaling pathways that present promising targets for each person's treatment. "We also hope that a better understanding of the biology of colon cancer will lead to the rational discovery of diagnostic markers in the serum of patients," adds Henderson. In addition, the project aims to develop a series of new cancer cell lines and mouse tumor models from the patient-derived material, which will facilitate preclinical research on tumor biology and experimental therapeutics. The total budget is €25.8 ($37.2) million, which includes €16.1 ($23.3) million from the European Union as part of the Innovative Medicines Initiative and €9.7 ($14) million contributed by industry partners. *Markus Elsner*

Six months of due diligence on both sides followed until the pact was finalized. The fact that Zheijiang Medicine is a public company made it easier for the MediciNova to commit to the process. "You want to know that your partner has adequate resources to not only get through clinical studies but also through the launch phase," says Geoff O'Brien, MediciNova's director of business development. The formation of a joint venture rather than a licensing deal was primarily to help gain Chinese government support said Yuichi Iwaki CEO of MediciNova.

Most companies in China, however, are not publicly listed. The Chinese government is still involved in most business transactions, as they provide financial support to the life sciences in the form of grants and tax breaks. "Government is always a major piece you should not forget about," Shi cautions.

Another common issue for foreign investors and collaborators is intellectual property (IP) rights. "When making investments into China, foreign investors should be highly cautious of patent issues," says Zhaohui Peng, the inventor of Gendicine, who is now allying with Pope to fight Benda. Although pirating is no longer the main problem, as it was some years ago, Chinese firms still fail to fully acknowledge IP. "Chinese companies are now using legal weapons to try to invalidate patents of the innovation firms," says Zailin Yu, president of Beijing Weiming Fortune Gene Drug Research Centre, who has experienced these maneuvers firsthand. When returning to China in 2005, Yu brought with him a US patent for a recombination technology he invented to develop modified long-lasting versions of insulin and other blockbuster drugs such as Thousand Oaks, California–based Amgen's erythropoietin without infringing on the original patents.

Yu says a group of leading local pharmas tried to sue the State Intellectual Property Office to rule against the patents to circumvent the license process. After the courts supported Yu in a litigation, the local companies raised new excuses to invalidate the patents. "They do not care whether they eventually win. They abuse the intellectual property rights to get more time for their clinical trials," Yu told *Nature Biotechnology*.

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Although the Chinese market still lags behind the West in terms of drug and business regulation and expertise, the situation is quickly improving, says Fang Hu, president of Beijing-based drug developer Converse. As president of Sunway Biotech, Hu successfully commercialized H101, the world's first oncolytic therapy employing recombinant oncolytic adenovirus type 5 against head and neck squamous cell carcinoma. China's push to develop innovative drugs is bound to create a more biotech-friendly environment for international investors, he says. "A key factor driving positive changes is that there are more and more experts who know both biomedical science and the business environment."

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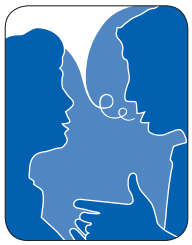
IN their words



"If you made chocolates and soda, you are going to be a better investment than in R&D today." Sanofi Aventis CEO Chris Viehbacher vents his frustration over the dismal value Wall Street places on drug industry pipelines (*RPM Report*, 19 March 2011).

"Within 10 years, people will be able to pick up these human-milk-like products at the supermarket." Li Ning, a scientist from the Chinese Academy of Engineering and director of the State Key Laboratories for Agro-biotechnology at China Agricultural University, on cows engineered with unspecified human milk proteins (*China Post*, 23 March 2011).