

Spotlight on diagnostics

Dealing in diagnostics

Recent advances in diagnostic technologies have allowed many diseases and conditions to be detected earlier, giving patients a better chance of treatment and ultimately survival. The development of such next-generation diagnostics has also contributed to the progression of initiatives such as the 100,000 Genomes Project (Precision medicine Q&A, page M3), and together these efforts are bringing the concept of precision medicine a step closer to reality. In **Table 1**

we highlight select deals involving diagnostics since early 2015 and focus specifically on companion diagnostics. Companion diagnostics are tests that are used to assess the safety, dosage and effectiveness of a potential corresponding drug. As demonstrated by the deals mentioned below, companion diagnostics are more frequently being developed alongside emerging therapies, so that patients who are likely to respond to those therapies can be identified earlier.

Table 1: Spotlight diagnostic deals since early 2015

Date	Companies	Summary
February 2015	Ono Pharmaceutical Dako	Dako will work with Ono Pharmaceutical to develop a companion diagnostic test aimed at identifying patients most likely to respond to the PD1 inhibitor nivolumab
April 2015	Astellas Pharma Inc. Invivoscribe Technologies, Inc.	Invivoscribe is developing a companion diagnostic test assessing FLT3 mutations for use in trials of Astellas' anticancer <i>FLT3/AXL</i> inhibitor ASP2215
April 2015	Roche's Ventana Medical Systems Inc. Astellas Pharma Inc.	Roche's Ventana Medical Systems Inc. unit has partnered with Astellas to develop companion diagnostics for targeted cancer drugs developed by Astellas including ASP5878, a FGFR inhibitor
May 2015	NanoString Technologies, Inc. Merck & Co. Inc.	Merck and NanoString are collaborating to develop a potential companion diagnostic based on immune-related gene expression signatures for the PD1 inhibitor, pembrolizumab, which is being developed for multiple cancers by Merck
August 2015	Illumina, Inc. Burning Rock	Illumina is partnering with Burning Rock to develop oncology diagnostics based on next-generation sequencing technology for China
September 2015	Merck KGaA, Pfizer, Dako	Dako will develop a companion diagnostic test to measure the expression levels of PDL1 in clinical trials of Merck KGaA and Pfizer's PDL1 inhibitor avelumab
September 2015	Memorial Sloan Kettering Cancer Center (MSK) Illumina, Inc.	MSK and Illumina have partnered up to research the potential of circulating tumor DNA as a biomarker for cancer
September 2015	Exiqon A/S Aarhus University Hospital	Aarhus and Exiqon have signed a development and commercialization license agreement for two biomarker sets for the diagnosis of prostate cancer
November 2015	Eutropics Pharmaceuticals Tolero Pharmaceuticals, Inc.	Tolero will use Eutropics' PraediCare-Dx biomarker platform to develop its CDK9 inhibitor alvocidib
January 2016	Hologic, Metamark Genetics, Inc.	Based on its Panther platform Hologic will develop a second-generation assay with Metamark Genetics for prostate cancer detection
January 2016	Pfizer, Adaptive Biotechnologies	Pfizer will access Adaptive's immunosequencing platform to accelerate its immuno-oncology biomarker and drug development programs
January 2016	Merck KGaA, Biocartis	Biocartis and Merck collaborate to develop a liquid biopsy RAS biomarker test to help guide treatment for patients with metastatic colorectal cancer

CDK, cyclin-dependent kinase.