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BUSINESS

Why Merck Is Betting Big on One Cancer Drug

Global sales of more than \$3.8 billion for Keytruda in 2017 spur efforts to develop more potential uses

By [Peter Loftus](#) [Follow](#)

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A patient gets his dose of Keytruda from a nurse at the H. Lee Moffitt Cancer Center and Research Institute in 2014. Studies have shown Merck's Keytruda prolongs patient survival in some cancers.

PHOTO: JAMES BORCHUCK/TAMPA BAY TIMES/ZUMA PRESS

RAHWAY, N.J.—Merck **MRK 0.69%** ▲ & Co. is making one of the biggest bets on a single drug in the pharmaceutical industry, a move that is risky but that could, if successful, pay off for the company and a broad array of cancer patients.

Merck's Keytruda, a new type of cancer drug that harnesses patients' immune systems to fight tumors, is already marketed to treat lung, skin, bladder and other cancers. Global sales soared to more than \$3.8 billion in 2017—about 9% of Merck's total revenue—fueled by a monthly U.S. price tag of \$13,500 and studies showing it prolongs patient survival in some cancers.

Doctors view the development of Keytruda and other immunotherapies as a big advance that has already helped some patients live longer. Merck sees more potential uses and sales. The company and outside researchers are running more than 700 clinical trials for Keytruda in more than 30 cancer types, according to the National Institutes of Health—an effort commanding more than half of Merck’s budget for all clinical drug studies, according to R&D chief Roger Perlmutter.

Expanding Experiments

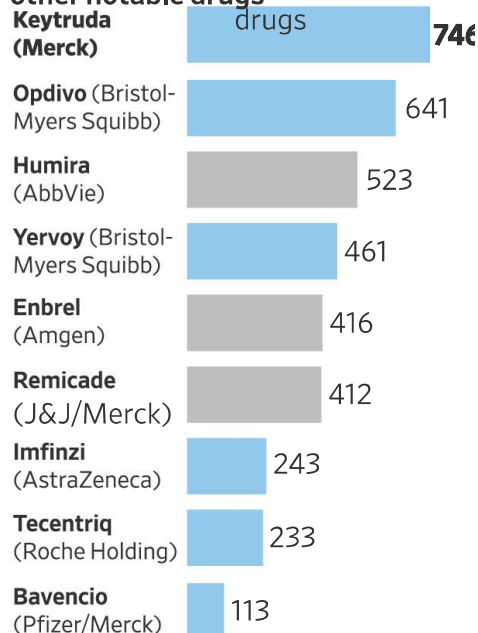
Merck and outside researchers are running more clinical trials of cancer treatment Keytruda than several other cancer drugs and high-selling drugs for other diseases.

Merck says it has scrapped work in other diseases to put resources into Keytruda, marking a big cultural change for the company, according to people who have worked there.

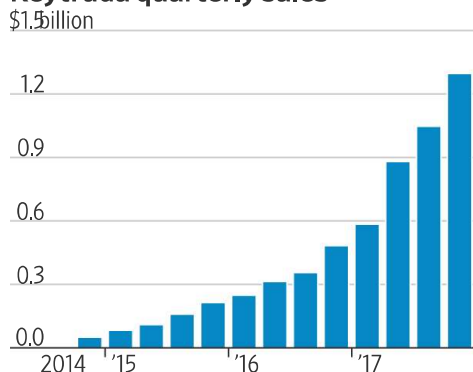
“I said to everyone, ‘Whatever other projects you’re working on, you can stop now, because we’re going to be doing this, and we’re going to put a lot of muscle behind this,’” Dr. Perlmutter said. He said he based the decision on early clinical data showing that Keytruda shrank some tumors effectively, and on the knowledge that rival Bristol-Myers Squibb Co. had already released positive study results of its rival drug, Opdivo.

Dr. Perlmutter moved scientists and money into Keytruda and shed projects he considered less promising, he said, such as an experimental drug for psoriasis that Merck licensed in 2014 to Sun Pharmaceutical Industries Inc.

Number of clinical trials that are completed, under way or planned for cancer immunotherapies and other notable drugs



Keytruda quarterly sales



*As of April 10

Sources: ClinicalTrials.gov; Merck (sales)

“Before Keytruda, Merck’s R&D strategy was to bring as many drugs to market as they could,” said Bernard Munos, a pharmaceutical R&D consultant who previously worked at Eli Lilly & Co.

Some analysts and investors worry Merck is becoming too reliant on Keytruda, a factor they say is behind the 8.7% slide in the company’s stock price over the past year, versus a 1.3% decline in the S&P Pharmaceuticals Select Industry index.

Credit Suisse analysts predict Keytruda annual global sales will surpass \$10 billion in 2022, making up 22% of Merck’s total revenue. Sales of some of Merck’s other best-selling drugs, including Remicade and Vytarin, have declined amid generic competition, and more drugs are likely to face such competition in coming years.

“Unfortunately for Merck, the rest of the business is not that strong,” said

Credit Suisse analyst Vamil Divan.

Dr. Perlmutter acknowledges the risk of investing so much in Keytruda but says Merck continues to conduct R&D in other areas. The company has more than 40 other drugs in clinical testing, including potential treatments for infectious diseases and diabetes.

“This is a very easy business to make mistakes in, and you can always make investments that don’t yield major contributions to human health,” he said in an interview at a Merck site in Rahway, N.J., where oncology R&D is based. “I do feel



Merck's R&D chief Roger Perlmutter PHOTO:
DOMINICK REUTER FOR THE WALL STREET JOURNAL

that we have a responsibility with Keytruda to ensure that we fully demonstrate what this drug can do.”

Few brand-name drugs have been subjected to as many studies as Keytruda. More than 600 trials are listed for Keytruda's closest competitor, Bristol-Myers's Opdivo, and more than 500 for

AbbVie Inc.'s Humira anti-inflammatory drug, according to ClinicalTrials.gov, a database run by the National Institutes of Health.

Dr. Perlmutter, who previously ran R&D at Amgen Inc., identified Keytruda as a priority soon after Merck Chief Executive Kenneth Frazier hired him to lead R&D in 2013.

To help oversee the Keytruda trials, Merck boosted its in-house U.S. oncology leadership to about 100 specialists, from about 20 in 2013, said Roy Baynes, head of global clinical development. About 27,000 patients are enrolled in the Merck-sponsored Keytruda studies, with targeted enrollment of 62,000, a spokeswoman said.

One closely watched study could help signal whether Merck's strategy is sound. The company is expected to report Monday detailed results of a trial of Keytruda combined with chemotherapy to treat advanced lung cancer. Merck said in January the combination improved patient survival but it didn't disclose details.

Merck also has provided the drug for free to outside researchers running their own trials. One study by researchers at Johns Hopkins University in Baltimore showed Keytruda was effective in patients with a variety of cancer types whose tumors share a rare genetic defect.

Keytruda trial results haven't been uniformly positive. The drug failed to prolong survival in some studies, including one in gastric-cancer patients that Merck disclosed in December. And last year the FDA ordered Merck to stop two

Keytruda trials after more blood-cancer patients receiving the drug died than those on other treatments.

“I question our strategy all the time,” Dr. Perlmutter said. But on balance, he said, “we have really good data.”

Write to Peter Loftus at peter.loftus@wsj.com

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