Bayer AG
Investor Relations
51368 Leverkusen
Germany
www.investor.bayer.com

Investor News

Not intended for U.S. and UK Media

Bayer submits European marketing authorization application for larotrectinib for the treatment of TRK fusion cancer

Leverkusen, Germany, August 27, 2018 – Bayer announced today that the marketing authorization application (MAA) for larotrectinib has been submitted to the European Medicines Agency (EMA). Larotrectinib was developed to treat adult and pediatric patients with locally advanced or metastatic solid tumors with a neurotrophic tyrosine receptor kinase (*NTRK*) gene fusion. *NTRK* gene fusions are genomic alterations resulting in uncontrolled production of tropomyosin receptor kinase (TRK) fusion proteins, and lead to tumor growth.

Larotrectinib is a highly selective TRK inhibitor that targets TRK fusion proteins that fuel the patients' cancer, regardless of where it originates in the body. Bayer and Loxo Oncology, a biopharmaceutical company based in Stamford, Connecticut (U.S.), are jointly developing larotrectinib. In May 2018, Larotrectinib was granted Priority Review by the Food and Drug Administration in the U.S. for the treatment of adult and pediatric patients with locally advanced or metastatic solid tumors harboring a *NTR*K gene fusion.

"Larotrectinib has demonstrated exciting clinical responses in patients with TRK fusion cancer, across various tumor types in both children and adults," said Ulrik Lassen, M.D., Ph.D., Department of Oncology, Rigshospitalet, Copenhagen. "The regulatory submission of larotrectinib in Europe moves us closer to being able to provide a targeted treatment option to these patients for which there is currently no approved therapy."

"The potential approval of larotrectinib would mark a paradigm shift in the way we treat cancer by targeting the genomic alteration that is causing the cancer to grow, rather than the site where it originates in the body," said Scott Fields, MD, senior vice president and head of oncology development at Bayer's Pharmaceutical Division. "The Marketing Authorization Application for larotrectinib brings us one step closer to potentially being

able to offer a much needed treatment option for patients with TRK fusion cancers in Europe."

About larotrectinib (LOXO-101)
Larotrectinib is an investigational tropomyosin receptor kinase (TRK) inhibitor in clinical development for the treatment of patients with cancers that harbor a neurotrophic tyrosine receptor kinase (*NTRK*) gene fusion. Growing research suggests that the *NTRK* genes can become abnormally fused to other genes, producing a TRK fusion protein that can lead to the development of solid tumors across multiple sites of the body. In clinical trials, larotrectinib demonstrated an 80 percent investigator-assessed confirmed overall response rate (ORR) and a 75 percent independent-assessed confirmed ORR, across many different types of solid tumors. The majority of all adverse events were grade 1 or 2.

In November 2017, Bayer and Loxo Oncology entered into an exclusive global collaboration for the development and commercialization of larotrectinib and LOXO-195, a novel TRK inhibitor. Bayer and Loxo Oncology will jointly develop the two products with Loxo Oncology leading the ongoing clinical studies as well as the filing in the U.S., and Bayer leading ex-U.S. regulatory activities and worldwide commercial activities. In the U.S., Bayer and Loxo Oncology will co-promote the products.

For additional information about the larotrectinib clinical trials, please refer to www.clinicaltrials.gov or www.loxooncologytrials.com. Larotrectinib has not been approved by the U.S. Food and Drug Administration, the European Medicines Agency or any other health authority.

TRK fusion cancer
TRK fusion cancer occurs when a neurotrophic tyrosine receptor kinase (*NTRK*) gene fuses with another unrelated gene, producing an altered tropomyosin receptor kinase (TRK) protein. The altered protein, or TRK fusion protein, is constantly active, triggering a permanent signal cascade. These proteins become the primary driver of the spread and growth of tumors in patients with TRK fusion cancer. TRK fusion cancer is not limited to certain types of cells or tissues, which means it can occur in any part of the body. TRK fusion cancer occurs in various adult and pediatric solid tumors with varying prevalence, including appendiceal cancer, breast cancer, cholangiocarcinoma, colorectal cancer, GIST, infantile fibrosarcoma, lung cancer, mammary analogue secretory carcinoma of the salivary gland, melanoma, pancreatic cancer, thyroid cancer, and various sarcomas.

Only sensitive and specific tests can reliably detect TRK fusion cancer. Next-generation sequencing (NGS) can provide a comprehensive view of genomic alterations across a large number of genes. Fluorescence in situ hybridization (FISH) can also be used to test for TRK fusion cancer and immunohistochemistry (IHC) can be used to detect the presence of TRK protein.For further information, go to www.trkcancer.com.

About Oncology at Bayer

Bayer is committed to delivering science for a better life by advancing a portfolio of innovative treatments. The oncology franchise at Bayer includes four marketed products and several other compounds in various stages of clinical development. Together, these products reflect the company's approach to research, which prioritizes targets and pathways with the potential to impact the way that cancer is treated.

About Bayer

Bayer is a global enterprise with core competencies in the Life Science fields of health care and agriculture. Its products and services are designed to benefit people and improve their quality of life. At the same time, the Group aims to create value through innovation, growth and high earning power. Bayer is committed to the principles of sustainable development and to its social and ethical responsibilities as a corporate citizen. In fiscal 2017, the Group employed around 99,800 people and had sales of EUR 35.0 billion. Capital expenditures amounted to EUR 2.4 billion, R&D expenses to EUR 4.5 billion. For more information, go to www.bayer.com.

Bayer Investor Relations Team

Bayer AG
Investor Relations
51368 Leverkusen, Germany
E-mail: ir@bayer.com
Internet: http://www.investor.bayer.com