Lilly's olomorasib receives U.S. FDA's Breakthrough Therapy designation for the treatment of certain newly diagnosed metastatic KRAS G12C-mutant lung cancers

September 4, 2025

The Breakthrough Therapy designation for olomorasib is based on data from the Phase 1/2 LOXO-RAS-20001 trial and Phase 3 SUNRAY-01 trial

Updated efficacy and safety data for olomorasib will be presented at the IASLC 2025 World Conference on Lung Cancer

INDIANAPOLIS, Sept. 4, 2025 /PRNewswire/ -- Eli Lilly and Company (NYSE: LLY) today announced that the U.S. Food and Drug Administration (FDA) has granted Breakthrough Therapy designation to olomorasib, in combination with anti-PD-1 therapy KEYTRUDA (pembrolizumab), for the first-line treatment of patients with unresectable advanced or metastatic non-small cell lung cancer (NSCLC) with a *KRAS* G12C mutation and PD-L1 expression ≥ 50%, as determined by FDA approved tests. Olomorasib is a potent and highly selective second-generation inhibitor of KRAS G12C with preliminary evidence of central nervous system (CNS) activity.

Breakthrough Therapy designation aims to expedite the development and review of drugs that are intended to treat a serious condition when preliminary clinical evidence indicates that the drug may demonstrate substantial improvement on a clinically significant endpoint(s) over already available therapies that have received full FDA approval.

"The Breakthrough Therapy designation recognizes the potential for olomorasib to be a meaningful treatment advance and highlights the continued unmet need for improved options for patients with *KRAS* G12C-mutant NSCLC, particularly in the first-line setting in combination with standard-of-care immunotherapy," said David Hyman, M.D., Lilly chief medical officer. "We look forward to presenting updated data from the olomorasib development program in significantly more patients and with longer follow-up at WCLC and continuing to investigate olomorasib in combination with immunotherapy-based regimens in a variety of treatment settings across the Phase 3 SUNRAY-01 and SUNRAY-02 studies."

The FDA Breakthrough Therapy designation is based on encouraging results from the Phase 1/2 LOXO-RAS-20001 trial and the dose optimization portion of the Phase 3 SUNRAY-01 trial. Updated results from an integrated analysis from these studies will be presented at the 2025 World Conference on Lung Cancer (WCLC) hosted by the International Association for the Study of Lung Cancer (IASLC), taking place Sept. 6 - 9 in Barcelona, Spain.

Details on Presentations at the IASLC 2025 World Conference on Lung Cancer
In an oral presentation (Abstract #MA02.06), Lilly will report on an integrated analysis of efficacy and safety results in patients with *KRAS* G12C-mutant NSCLC who received olomorasib plus pembrolizumab as first-line treatment in the dose optimization cohorts of the Phase 1/2 LOXO-RAS-20001 study and Phase 3 SUNRAY-01 study. These data will be shared in an oral presentation during the New Treatment Strategies in Other Than EGFR-Positive Tumors session on Sunday, Sept. 7, 2025, from 12-1:15 p.m. Central European Summer Time (CEST).

In a second oral presentation (Abstract #OA08.02), Lilly will report results of an integrated analysis in patients with *KRAS* G12C-mutant advanced or metastatic NSCLC who received olomorasib in combination with chemoimmunotherapy (pembrolizumab, pemetrexed and platinum) as a first-line treatment in the Phase 1/2 LOXO-RAS-20001 trial and safety lead-in for the Phase 3 SUNRAY-01 trial. These data will be shared in an oral presentation during the Improving Outcomes in EGFR and KRAS Mutant Tumors, More is Better session on Monday, Sept. 8, 2025, from 12-1:15 p.m. CEST.

The submitted abstracts for both presentations utilized a Jan. 15, 2025 data cut-off date, and the oral presentations will utilize a June 6, 2025 data cut-off date.

For more information on the olomorasib Phase 3 studies SUNRAY-01 (NCT06119581) and SUNRAY-02 (NCT06890598), please visit https://clinicaltrials.gov/.

About LOXO-RAS-20001
LOXO-RAS-20001 is an open-label, multicenter, Phase 1/2 study evaluating the safety, tolerability and preliminary efficacy of olomorasib in patients with *KRAS* G12C-mutant advanced solid tumors (NCT04956640). The study includes a Phase 1a dose escalation phase of olomorasib monotherapy in *KRAS* G12C-mutant solid tumors and a Phase 1b dose expansion and optimization phase which are evaluating olomorasib as a monotherapy and in combination with other treatments.

About SUNRAY-01
SUNRAY-01 is a randomized, double-blind, placebo-controlled, global Phase 3 study evaluating the efficacy and safety of olomorasib in combination with pembrolizumab with or without chemotherapy as a first-line treatment for patients with *KRAS* G12C-mutant metastatic non-small cell lung cancer (NSCLC). The trial is designed to compare olomorasib plus standard-of-care therapies versus placebo plus standard-of-care therapies, with the goal of determining whether the addition of olomorasib can improve clinical outcomes in this patient population. SUNRAY-01 is part of Lilly's broader clinical development program investigating olomorasib across multiple stages and settings of *KRAS* G12C-mutant NSCLC (NCT06890598).

About Olomorasib
Olomorasib (LY3537982) is an investigational, oral, potent, and highly selective second-generation inhibitor of the KRAS G12C protein. KRAS is the most common oncogene across all tumor types, and *KRAS* G12C mutations occur in 13% of patients with non-small cell lung cancer (NSCLC), and 1-3% of patients with other solid tumors.[1] Olomorasib is a highly potent covalent inhibitor with potential for greater than 90% target occupancy, which may allow for safer combinations with less toxicity.[2]

Olomorasib is currently being studied in *KRAS* G12C-mutated cancers in combination with pembrolizumab with or without chemotherapy for first-line treatment of advanced NSCLC, in combination with immunotherapy for the treatment of resected and unresectable NSCLC, and as monotherapy and in combinations in other advanced solid tumors, including: NCT06119581, NCT06890598, and NCT04956640.

About Lilly
Lilly is a medicine company turning science into healing to make life better for people around the world. We've been pioneering life-changing discoveries for nearly 150 years, and today our medicines help tens of millions of people across the globe. Harnessing the power of biotechnology, chemistry and genetic medicine, our scientists are urgently advancing new discoveries to solve some of the world's most significant health challenges: redefining diabetes care; treating obesity and curtailing its most devastating long-term effects; advancing the fight against Alzheimer's disease; providing solutions to some of the most debilitating immune system disorders; and transforming the most difficult-to-treat cancers into manageable diseases. With each step toward a healthier world, we're motivated by one thing: making life better for millions more people. That includes delivering innovative clinical trials that reflect the diversity of our world and working to ensure our medicines are accessible and affordable. To learn more, visit Lilly.com and Lilly.com/news, or follow us on Facebook, Instagram, and LinkedIn. P-LLY

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Cautionary Statement Regarding Forward-Looking Statements
This press release contains forward-looking statements (as that term is defined in the Private Securities Litigation Reform Act of 1995) about olomorasib as a potential treatment for people with certain *KRAS* G12C-mutant advanced solid tumors, preclinical data for an antibody-drug conjugate targeting folate receptor alpha and reflects Lilly's current beliefs and expectations. However, as with any pharmaceutical product, there are substantial risks and uncertainties in the process of drug research, development, and commercialization. Among other things, there is no guarantee that planned or ongoing studies will be completed as planned, that future study results will be consistent with study results to date, that any of these therapies will prove to be a safe and effective treatment or receive regulatory approval, or that Lilly will execute its strategy as expected. For further discussion of these and other risks and uncertainties that could cause actual results to differ from Lilly's expectations, see Lilly's Form 10-K and Form 10-Q filings with the United States Securities and Exchange Commission. Except as required by law, Lilly undertakes no duty to update forward-looking statements to reflect events after the date of this release.

References :

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2. Peng S-B, Si C, Zhang Y, et al. Abstract 1259: Preclinical characterization of Ly3537982, a novel, highly selective and potent KRAS-G12C inhibitor. *Cancer Research.* 2021;81(13_Supplement):1259-1259. doi:10.1158/1538-7445.am2021-1259

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