

CLINICAL DEVELOPMENT PROGRAM

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LOXO@LILLY AIMS TO CREATE MEDICINES THAT MAKE LIFE BETTER FOR ALL THOSE AFFECTED BY CANCER AROUND THE WORLD.

Bringing together the focus and spirit of a biotech with the scale, resources, and heritage of Lilly, our team is focused on rapidly delivering impactful new medicines for people with cancer. Our approach centers on creating oncology medicines that show early signs of clinical activity and will matter to patients.

To learn more about Loxo@Lilly's commitment to people with cancer, please visit **LillyLoxoOncologyPipeline.com**.

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Loxo@Lilly is committed to the development of patient-tailored therapeutics that integrate disease and target biology with drug characteristics in order to optimize treatments for patients. Our multidisciplinary approach allows for the translation of molecular and cellular discoveries into clinically meaningful outcomes. Key to this approach is Lilly's extensive and growing catalog of biomarkers.

Loxo@Lilly is dedicated to developing and delivering innovative new medicines that will make a meaningful difference to cancer patients. Building on our work in cancer treatment, we are developing new medicines as fast as possible to help people living with cancer fight their disease. For us, this means putting an intense focus on the latest scientific advances and collaborating with doctors, other researchers, advocates, and payers to ensure our medicines bring value to people living with cancer.

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CLINICAL DEVELOPMENT PIPELINE

PHASE 3

BTK INHIBITOR PIRTOBRUTINIB

MCL

BRUIN CLL-321, NCT04666038
CLL/SLL
BRUIN MCL-321, NCT04662255

BRUIN CLL-322, NCT04965493 CLL/SLL

- BRUIN CLL-313, NCT05023980 CLL/SLL
- BRUIN CLL-314, NCT05254743 CLL/SLL

CDK4/6 INHIBITOR

ABEMACICLIB

- MONARCH 2, NCT02107703 Breast Cancer
- MONARCH 3, NCT02246621 Breast Cancer
- MONARCH plus, NCT02763566 Breast Cancer
- monarchE, NCT03155997 Breast Cancer
- CYCLONE 2, NCT03706365 Prostate Cancer
- CYCLONE 3, NCT05288166 Prostate Cancer

postMONARCH, NCT05169567 Breast Cancer

KRAS G12C INHIBITOR OLOMORASIB

NCT06119581 NSCLC

RET INHIBITOR SELPERCATINIB



NSCLC

LIBRETTO-432, NCT04819100 NSCLC

SELECTIVE ER DEGRADER

EMBER-3, NCT04975308 Breast Cancer

EMBER-4, NCT05514054 Breast Cancer

VEGF RECEPTOR-2 ANTAGONIST RAMUCIRUMAB

RELAY, NCT02411448 NSCLC

CANCER TYPE KEY



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CLINICAL DEVELOPMENT PIPELINE (cont.)

PHASE 2

BTK INHIBITOR

PIRTOBRUTINIB



BRUIN, NCT03740529 CLL/SLL or NHL

CDK4/6 INHIBITOR ABEMACICLIB

- monarcHER. NCT02675231 **Breast Cancer**
 - Next MONARCH 1. NCT02747004 **Breast Cancer**
 - NCT03703466 Breast Cancer

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d

NCT04238819 Pediatric Cancer or Other Solid Tumors

> CAMPFIRE. NCT05440786 Sarcoma

CANCER TYPE KEY



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This document was commissioned by Lilly Medical and is intended to be used by HCPs for medical, scientific, and educational purposes.



KRAS G12C INHIBITOR

OLOMORASIB



NSCLC, CRC, or Other Solid Tumors

RET INHIBITOR

SELPERCATINIB

LIBRETTO-001, NCT03157128 NSCLC, MTC, PTC, or Other Solid Tumors



LIBRETTO-121. NCT03899792 Pediatric Cancer or Other Solid Tumors

VEGF RECEPTOR-2 ANTAGONIST RAMUCIRUMAB

CAMPFIRE, NCT04145349 Ì. Pediatric Cancer

CLINICAL DEVELOPMENT PIPELINE (cont.)

PHASE 1

CDK4/6 INHIBITOR

ABEMACICLIB

Breast Cancer

NCT02779751 NSCLC or Breast Cancer

NCT05999968 Prostate Cancer

FGFR3 INHIBITOR

LOX0-435



NEXT-GENERATION RET INHIBITOR



PI3Ka INHIBITOR

LOX0-783

PIKASSO-01, NCT05307705 Breast Cancer or Other Solid Tumors

SELECTIVE ER DEGRADER

EMBER, NCT04188548* Breast Cancer or Endometrial Cancer

CANCER TYPE KEY



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BTK INHIBITOR | pirtobrutinib

Bruton's tyrosine kinase (BTK) is critical for the propagation of B-cell receptor signaling and is upregulated in many B-cell malignancies as compared with normal B cells. BTK inhibition, both in vitro and in vivo, decreases proliferation and survival signals.¹

Pirtobrutinib is an investigational, oral, highly selective (in preclinical studies, over 300-fold more selective for BTK vs 98% of 370 non-BTK-kinases), non-covalent (reversible) BTK inhibitor.^{2,3} It possesses nanomolar potency independent of BTK C481 status in enzyme and cell-based assays.²⁻⁴ Pirtobrutinib has been shown in preclinical studies to reversibly bind BTK, have high target coverage regardless of BTK turnover rate, preserve activity in the presence of the C481 acquired resistance mutations, and predominantly avoid off-target kinases.²

PIRTOBRUTINIB is being investigated in clinical trials in patients with chronic lymphocytic leukemia/ small lymphocytic lymphoma, mantle cell lymphoma, and non-Hodgkin's lymphoma.

CDK4/6 INHIBITOR | ABEMACICLIB

Many human tumors acquire alterations which can lead to the activation of cyclin-dependent kinases (CDKs). These alterations include mutations that directly activate CDK4/6 gene amplifications, which increase expression of various protein activators such as D-type cyclins; as well as genetic losses, which reduce expression of protein inhibitors such as p16. These various mechanisms as well as loss of retinoblastoma (Rb) can lead to an enhanced proliferative potential by decreasing dependency on external growth factors and mitogenic signaling pathways, which are required to stimulate growth under normal conditions.^{5,6}

Abemaciclib has been shown in vitro to be a selective ATP-competitive inhibitor of CDK4/6 kinase activity that prevents the phosphorylation and subsequent inactivation of the Rb tumor suppressor protein, thereby inducing G1 cell-cycle arrest and inhibition of cell proliferation.^{7,8}



ABEMACICLIB is being investigated in clinical trials in patients with breast cancer, non-small cell lung cancer, pediatric cancers, prostate cancer, or sarcoma.

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FGFR3 INHIBITOR | LOXO-435

Fibroblast growth factor (FGF) receptor 3 (FGFR3) is a member of the highly conserved FGFR family of transmembrane receptors.⁹⁻¹¹ There are four FGF receptors, FGFR1-4, that each consist of an extracellular ligand-binding domain, transmembrane domain, and an intracellular tyrosine kinase domain.^{10,11} Receptor dimerization induced upon binding of the extracellular domain with a high-affinity member of the FGF family of ligands leads to phosphorylation of the intracellular domain and phospholipase Cγ, PI3K-AKT, RAS-MAPK-ERK, and STAT pathways activation, playing a critical role in several biological and developmental processes.^{9,11,12} FGFR3 aberrations act as oncogenes across tumor types and have been identified in 15% to 20% of advanced urothelial bladder cancers, ~15% of uterine carcinosarcomas, ~5% of endometrial cancers, and less frequently (<5%) in other solid tumor malignancies.^{10,11,13,14} Activating FGFR3 alterations are diverse and include point mutations, fusions, amplifications, and overexpression.⁹⁻¹² Dysregulation of FGFR3 promotes oncogenesis and tumor cell proliferation, migration, and survival.^{9-12,15} Inhibition of oncogenic FGFR3 shows clinical benefit in patients with advanced urothelial cancer; however, currently approved FGFR targeted therapies that are not specific to FGFR3 demonstrate limited efficacy, dose-limiting off-target toxicities, and susceptibility to resistance mutations.^{14,16}

LOXO-435 is an isoform-selective FGFR3 inhibitor that has shown antitumor activity across FGFR3-mutant in vivo preclinical models, with preserved potency against FGFR3 gatekeeper resistance mutants.¹⁴ LOXO-435 spares FGFR1 and FGFR2 in preclinical in vivo models, with the goal of avoiding dose-limiting hyperphosphatemia and other clinical adverse events that drive chronic intolerance to pan-FGFR inhibitors.¹⁴

LOXO-435 is being investigated in an open-label, multicenter, phase 1a/b study in patients with FGFR3-altered advanced urothelial carcinoma and other solid tumors.

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KRAS G12C INHIBITOR | OLOMORASIB

KRAS is the most common oncogene across all tumor types. *KRAS G12C* represents a *KRAS* mutation in patients with non-small cell lung cancer (14%), colorectal cancer (3%), and other solid tumors (1%-3%).¹⁷

Olomorasib is a selective covalent inhibitor of KRAS G12C; in preclinical models, it demonstrates activity as monotherapy and in combination with other anticancer therapies. It has competitive pharmacokinetic properties supporting its advancement into clinical testing. Olomorasib has been shown in vitro to target the *KRAS G12C* mutation, thereby inhibiting mutant KRAS-dependent signaling.¹⁸

OLOMORASIB is being studied in a clinical trial in patients with non-small cell lung cancer, colorectal cancer, or other solid tumors.

NEXT-GENERATION RET INHIBITOR | LOXO-260

Rearranged during transfection (*RET*) fusions have been identified in approximately 2% of non-small cell lung cancer,^{19,20} approximately 10% of papillary thyroid cancer,^{21,22} and less than 1% in other solid tumors including pancreatic and colorectal cancer.²³⁻²⁵ *RET* point mutations account for approximately 60% of medullary thyroid cancer.²⁶⁻²⁸ Cancers that harbor activating *RET* fusions or *RET* mutations depend primarily on this single constitutively activated kinase for their proliferation and survival. This dependency renders such tumors highly susceptible to small-molecule inhibitors targeting *RET*.

Recently, resistance to targeted RET treatment has been described in the clinic with secondary solvent front mutations or other oncogenic pathway activations emerging.²⁹⁻³¹

LOXO-260 is a selective small-molecule inhibitor of the RET receptor tyrosine kinase, developed to have activity against both solvent front and gatekeeper mutations, expressed alone or together, while maintaining the potency and selectivity of current selective RET inhibitors.³² LOXO-260 has demonstrated in vitro and in vivo activity as a selective inhibitor of both wild-type and oncogenic activated RET, including *RET* fusions, activating *RET* point mutations, and anticipated acquired resistant mutations.

LOX0-260 is being investigated in a clinical trial in patients with *RET* fusion-positive solid tumors, medullary thyroid cancer, and other tumors with RET activation refractory to selective RET inhibitors.

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MOLECULES IN CLINICAL DEVELOPMENT (cont.)

PI3Ka INHIBITOR | LOXO-783

Phosphoinositide 3-kinase alpha (PI3Ka) H1047R mutations are activating oncogenic events that occur in ~15% of breast cancers and less commonly in other cancers.³³

LOXO-783 is a potent, highly mutant-selective, brain-penetrant, allosteric small molecule PI3Ka H1047R inhibitor.³³

LOX0-783 is being investigated in an open-label, multicenter, phase 1a/1b study in patients with *PIK3CA* H1047R-mutant advanced breast cancer and other solid tumors.

RET INHIBITOR | SELPERCATINIB

Rearranged during transfection (*RET*) fusions have been identified in approximately 2% of non-small cell lung cancer,^{19,20} approximately 10% of papillary thyroid cancer,^{21,22} and less than 1% in other solid tumors including pancreatic and colorectal cancer.²³⁻²⁵ *RET* point mutations account for approximately 60% of medullary thyroid cancer.²⁶⁻²⁸ Cancers that harbor activating *RET* fusions or *RET* mutations depend primarily on this single constitutively activated kinase for their proliferation and survival. This dependency renders such tumors highly susceptible to small-molecule inhibitors targeting *RET*.

Selpercatinib is a selective, potent, CNS-active small-molecule inhibitor of *RET*. Selpercatinib possesses nanomolar potency against diverse *RET* alterations, including *RET* fusions, activating *RET* point mutations, and acquired resistance mutations. Selpercatinib has been shown in vitro and in vivo to exhibit specificity for *RET*, with limited activity against other tyrosine kinases.^{34,35}

SELPERCATINIB is being investigated in clinical trials in patients with RET-associated medullary thyroid cancer, non-small cell lung cancer, papillary thyroid carcinoma, pediatric cancers, and other solid tumors.

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MOLECULES IN CLINICAL DEVELOPMENT (cont.)

SELECTIVE ER DEGRADER | IMLUNESTRANT

Estrogen signaling plays an important role in organ development and growth. In certain cancers, abnormal estrogen signaling via the estrogen receptor is a component of tumor growth.³⁶ Disruption of estrogen signaling by selective estrogen receptor degraders (SERDs) is one of the treatment options for patients with estrogen-receptor-positive (ER+) cancers.

Imlunestrant is an orally available SERD that suppresses estrogen signaling and subsequently inhibits cell proliferation in ER-expressing tumor models.^{37,38}

IMLUNESTRANT is being investigated in clinical trials in patients with ER+ breast cancer or endometrial cancer.

VEGF RECEPTOR-2 ANTAGONIST | RAMUCIRUMAB

Angiogenesis is a tightly regulated, multiple-step process, which results in the formation of new blood vessels from preexisting vasculature and is an important component in the development and progression of malignant disease. Signaling by vascular endothelial growth factor (VEGF) receptor-2 in endothelial cells plays a role in inducing normal and pathologic angiogenesis and is activated by binding of ligands VEGF-A, VEGF-C, and VEGF-D.³⁹⁻⁴¹

Ramucirumab is a human IgG1 monoclonal antibody receptor antagonist that has been shown in vitro to bind to and block the activation of VEGF receptor-2 by preventing the binding of VEGF receptor ligands VEGF-A, VEGF-C, and VEGF-D.^{42,43}

RAMUCIRUMAB is being investigated in clinical trials in patients with non-small cell lung cancer or pediatric sarcoma.

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