



DURECT Corporation Receives FDA Breakthrough Therapy Designation for Larsucosterol in Alcohol-Associated Hepatitis

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DURECT plans to confirm the efficacy and safety of larsucosterol in a registrational Phase 3 clinical trial

CUPERTINO, Calif., May 21, 2024 /PRNewswire/ — DURECT Corporation (Nasdaq: [DRRX](#)), a late-stage biopharmaceutical company pioneering the development of epigenetic therapies to transform the treatment of serious and life-threatening conditions such as acute organ injury and cancer, today announced that the U.S. Food and Drug Administration (FDA) has granted Breakthrough Therapy designation (BTD) to larsucosterol for the treatment of patients with severe alcohol-associated hepatitis (AH).

“We’re pleased with the FDA’s decision to grant Breakthrough Therapy designation to larsucosterol, as it further recognizes its potential to save the lives of AH patients,” said James E. Brown, D.V.M., President and CEO of DURECT. “AH has a high mortality rate and no currently approved treatments, so there is a great need for a safe and effective therapy. We continue to finalize the design of our planned registrational Phase 3 trial for larsucosterol, incorporating the recent FDA feedback and promising data from our completed Phase 2b AHFIRM trial. We look forward to releasing additional clinical data on larsucosterol and potentially bringing this therapy to patients as soon as possible.”

The BTD is supported by clinical evidence from the Phase 2b AHFIRM trial, a double-blind, placebo-controlled, international, multi-center study, which evaluated the safety and efficacy of larsucosterol as a treatment for patients with severe AH. Topline data from the study were announced in 2023, and further details will be shared in a late-breaking oral presentation at the [European Association for the Study of the Liver \(EASL\) Congress 2024](#) on June 8, 2024 in Milan, Italy.

BTD is designed to expedite the development and review of therapies intended to treat a serious or life-threatening condition and whose preliminary clinical evidence indicates that the drug may demonstrate substantial improvement on one or more clinically significant endpoints over existing available therapies. BTD provides therapeutics with all the benefits from a Fast Track designation, such as early and frequent communication with the FDA, eligibility for rolling review and other actions to expedite review, in addition to intensive guidance and organizational commitment involving senior FDA managers. BTD does not change the standards for product approval but may expedite the process.

About the AHFIRM Trial

AHFIRM was a Phase 2b randomized, double-blind, placebo-controlled, international, multi-center study conducted in subjects with severe alcohol-associated hepatitis (AH) to evaluate the safety and efficacy of larsucosterol treatment (AHFIRM). The study was comprised of three arms and enrolled 307 patients, with approximately 100 patients in each arm: (1) placebo, which consisted of standard of care, with or without methylprednisolone capsules at the investigators’ discretion; (2) larsucosterol (30 mg); and (3) larsucosterol (90 mg). Patients in the larsucosterol arms received the same supportive care without steroids. The primary outcome measure was the 90-Day incidence of mortality or liver transplantation for patients treated with larsucosterol compared to those treated with placebo, and the key secondary endpoint was 90-Day survival. The Company enrolled patients at clinical trial sites across the U.S., EU, U.K., and Australia. Topline data from AHFIRM were announced in November 2023. Reflecting the life-threatening nature of AH and the lack of therapeutic options, the U.S. Food and Drug Administration (FDA) has granted larsucosterol Fast Track designation and Breakthrough Therapy designation for the treatment of AH. For more information, refer to ClinicalTrials.gov Identifier: NCT04563026.

About Alcohol-associated Hepatitis (AH)

AH is an acute form of alcohol-associated liver disease (ALD) associated with long-term heavy alcohol intake, often following a recent period of increased consumption (i.e., a binge). AH is typically characterized by severe inflammation and liver cell damage, potentially leading to life-threatening complications including liver failure, acute kidney injury and multi-organ failure. There are no FDA approved therapies for AH, and a retrospective analysis of 77 studies published between 1971 and 2016, which included data from 8,184 patients, showed the overall mortality from AH was 26% at 28 days, 29% at 90 days and 44% at 180 days. A



subsequent global study published in December 2021, which included 85 tertiary centers in 11 countries across 3 continents, prospectively enrolled 2,581 AH patients with a median Model of End-Stage Liver Disease (MELD) score of 23.5, reported mortality at 28 and 90 days of approximately 20% and 31%, respectively. Stopping alcohol consumption is necessary, but frequently not sufficient for recovery in many moderate (defined as MELD scores of 11-20) and severe (defined as MELD scores >20) patients, and therapies that reduce liver inflammation, such as corticosteroids, are limited by contraindications, have not been shown to improve survival at 90 days or one year, and have demonstrated an increased risk of infection. While liver transplantation is becoming more common for ALD patients, including AH patients, the total number of such transplants is still relatively small and limited by organ availability. Average charges for a liver transplant exceed \$875,000, and patients require lifelong immunosuppressive therapy to prevent organ rejection.

About Larsucosterol

Larsucosterol is an endogenous sulfated oxysterol and an epigenetic modulator. Epigenetic regulators are compounds that regulate patterns of gene expression without modifying the DNA sequence. DNA hypermethylation, an example of epigenetic dysregulation, results in transcriptomic reprogramming and cellular dysfunction, and has been reported in many acute (e.g., AH) and chronic diseases (e.g., MASH). As an inhibitor of DNA methyltransferases (DNMT1, DNMT3a and 3b), larsucosterol inhibits DNA methylation, which subsequently modulates the expression of genes that are involved in cell signaling pathways associated with stress responses, cell death and survival, and lipid biosynthesis. This may ultimately lead to improved cell survival, reduced inflammation, and decreased lipotoxicity. As an epigenetic modulator, the proposed mechanism of action provides further scientific rationale for developing larsucosterol for the treatment of acute organ injury and certain chronic diseases.

About DURECT Corporation

DURECT is a late-stage biopharmaceutical company pioneering the development of epigenetic therapies that target dysregulated DNA methylation to transform the treatment of serious and life-threatening conditions, including acute organ injury and cancer. Larsucosterol, DURECT's lead drug candidate, binds to and inhibits the activity of DNA methyltransferases (DNMTs), epigenetic enzymes that are elevated and associated with hypermethylation found in alcohol-associated hepatitis (AH) patients. Larsucosterol is in clinical development for the potential treatment of AH, for which the FDA has granted a Fast Track and a Breakthrough Therapy designation; metabolic dysfunction-associated steatohepatitis (MASH) is also being explored. In addition, POSIMIR[®] (bupivacaine solution) for infiltration use, a non-opioid analgesic utilizing the innovative SABER[®] platform technology, is FDA-approved and is exclusively licensed to Innocoll Pharmaceuticals for sale and distribution in the United States. For more information about DURECT, please visit www.durect.com and follow us on X (formerly Twitter) at <https://x.com/DURECTCorp>.

DURECT Forward-Looking Statements

This press release contains forward-looking statements, including statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, relating to: the potential benefits of Breakthrough Therapy designation, and the potential uses and benefits of larsucosterol in patients with AH and potentially other indications. Actual results may differ materially from those contained in the forward-looking statements contained in this press release, and reported results should not be considered as an indication of future performance. The potential risks and uncertainties that could cause actual results to differ from those projected include, among other things, the risk that future clinical trials of larsucosterol are delayed or do not confirm the results from subset analyses of the AHFIRM trial, including geographic or other segmentation, or of earlier clinical or pre-clinical trials, or do not demonstrate the safety or efficacy of larsucosterol in a statistically significant manner; the risk that the FDA or other government agencies may require additional clinical trials for larsucosterol before approving larsucosterol for the treatment of AH, the risk that Breakthrough Therapy designation does not expedite the process for FDA approval and that larsucosterol may never be approved; risks that Innocoll may not commercialize POSIMIR successfully; and risks related to the sufficiency of our cash resources, our anticipated capital requirements, our need or desire for additional financing, our ability to continue to meet the minimum bid price for continued listing on Nasdaq, our ability to obtain capital to fund our operations and expenses, and our ability to continue to operate as a going concern. Further information regarding these and other risks is included in DURECT's most recent Securities and Exchange Commission (SEC) filings, including its annual report on Form 10-K for the year ended December 31, 2023 and quarterly report on Form 10-Q for the quarter ended March 31, 2024, under the heading "Risk Factors." These reports are available on our website www.durect.com under the "Investors" tab and on the SEC's website at www.sec.gov. All information provided in this press release and in the attachments is based on information available to DURECT as of the date hereof, and DURECT assumes no obligation to update this information as a result of future events or developments, except as required by law.

NOTE: POSIMIR[®] is a trademark of Innocoll Pharmaceuticals, Ltd. in the U.S. and a trademark of DURECT Corporation outside of the U.S. SABER[®] is a trademark of DURECT Corporation. Other referenced trademarks belong to their respective owners. Larsucosterol is an investigational drug candidate under development and has not been approved for commercialization by the U.S.



Food and Drug Administration or other health authorities for any indication.

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