August 2, 2022 Acurx Pharmaceuticals

Acurx Announces New Data Presentations from Ongoing Ph2 Clinical Trial Program of Ibezapolstat for CDI at the 16th Biennial Congress of the Anaerobe Society of America

- New data link beneficial microbiome changes in Ph2a CDI patients to earlier results from Ph1 healthy volunteers to predict potential anti-recurrence properties of ibezapolstat
- New in vitro data show ibezapolstat is effective against high bacterial concentration (inoculum) of *C. difficile*) and does not induce production of C. difficile toxins A or B

STATEN ISLAND, N.Y., Aug. 2, 2022 /PRNewswire/ -- Acurx Pharmaceuticals, Inc. (NASDAQ: ACXP) ("Acurx" or the "Company"), a clinical stage biopharmaceutical company developing a new class of antibiotics for difficult-to-treat bacterial infections, announced today that new microbiome data from its Phase 2a clinical trial (completed in 4Q 2020) in patients with *C. difficile* Infection (CDI), as well as new in vitro microbiology results generated in 2Q 2022, in each case, were presented at the 16th Biennial Congress of the Anaerobe Society of America.

An oral presentation was made on July 30, 2022, during Session VIII on*Clostridioides difficile* Management Update by Dr. Kevin Garey, Professor and Chair, University of Houston College of Pharmacy and the Principal Investigator for microbiome aspects of the ibezapolstat clinical trial program. According to Dr. Garey, "The overall exceptional clinical trial results reported to date in CDI patients and in healthy volunteers show ibezapolstat to have ideal pharmacokinetic characteristics of high fecal concentrations with minimal systemic exposure- a likely reason for this novel drug to be well-tolerated in patients." He further stated: "Ibezapolstat demonstrated beneficial effects on the gut microbiome of CDI patients consistent with similar data from healthy volunteers, including increasing alpha diversity while on therapy; an increased proportion of Firmicutes with Clostridiales being the most common taxa; and a dramatic favorable effect on bile acids. The added value of an active comparator (vancomycin) control group in the preceding Phase 1 trial is a pioneering approach which we believe can become the new paradigm for early-phase CDI drug development. Together with the highly selective effects on the gut microbiome metagenomics analyses, favorable changes in gut bile acid metabolism provide strong rationale for prediction of ibezapolstat microbiome changes that protect against recurrent CDI."

In addition, a scientific poster was presented by Dr. Eugenie Basseres, University of Houston, entitled: *Ibezapolstat is effective In Vitro against High Inoculum of Clostridium difficile.* In this ongoing laboratory study, "Ibezapolstat's bactericidal killing was shown to be as effective as vancomycin in vitro against standard and high inoculum infections and does

not induce production of *C. difficile* toxins A or B. These data support the hypothesis that the initial killing effect of ibezapolstat in patients with CDI will be at least as good as vancomycin, without the harmful effect on the microbiome."

Robert J. DeLuccia, Executive Chairman of Acurx, stated: "With these new data and the entirety of our preclinical, Phase 1 and Phase 2a database, we are confident of a high probability of successful Phase 2b trial outcome." He further stated: "We continue to enroll patients in our Phase 2b trial and look forward to successfully completing enrollment as quickly as possible as we increase the number of trial sites from 16 to up to 30 and provide other innovative programs to trial sites to enhance the rate of enrollment, potentially mitigating or partially mitigating the countervailing enrollment disruption caused by the COVID-19 pandemic."

Both Dr. Garey's presentation and Dr. Basseres poster are available on the Company's website www.acurxpharma.com, (Presentations tab)

About Ibezapolstat
Ibezapolstat is a novel, orally administered antibiotic being developed as a Gram-Positive Selective Spectrum (GPSS™) antibacterial. It is the first of a new class of DNA polymerase IIIC inhibitors under development by Acurx to treat bacterial infections. Ibezapolstat's unique spectrum of activity, which includes *C. difficile* but spares other Firmicutes and the important Actinobacteria phyla, appears to contribute to the maintenance of a healthy gut microbiome.

The Company successfully completed Phase 1 and Phase 2a clinical trials of ibezapolstat. The Phase 2a trial demonstrated 100% clinical cure and 100% sustained clinical cure in patients with *C. difficile* Infection (CDI), along with beneficial microbiome changes during treatment including overgrowth of Actinobacteria and Firmicutes phylum species while on therapy and new findings which demonstrate potentially beneficial effects on bile acid metabolism. Acurx is currently enrolling patients in its Phase 2b 64-patient, randomized (1-to-1), non-inferiority, double-blind trial of oral ibezapolstat compared to oral vancomycin, a standard of care to treat CDI.

In June 2018, ibezapolstat was designated by the U.S. Food and Drug Administration (FDA) as a Qualified Infectious Disease Product (QIDP) for the treatment of patients with CDI and will be eligible to benefit from the incentives for the development of new antibiotics established under the Generating New Antibiotic Incentives Now (GAIN) Act. In January 2019, FDA granted "Fast Track" designation to ibezapolstat for the treatment of patients with CDI. The CDC has designated *C. difficile* as an urgent threat highlighting the need for new antibiotics to treat CDI.

About the Anaerobe Society of America
Founded in 1992, The Anaerobe Society of the Americas is an international organization, promoting the study and application of knowledge of anaerobic bacteriology. The primary activity of the society is organizing the biennial Anaerobe Congress for researchers, clinicians, and laboratory scientists from around the world to engage in presentations, exchanges, and dialogues related to anaerobes.

About Clostridioides difficile Infection (CDI). According to the 2017 Update (published February 2018) of the Clinical Practice Guidelines for C. difficile Infection by the Infectious Diseases Society of America (IDSA) and Society or Healthcare Epidemiology of America

(SHEA), CDI remains a significant medical problem in hospitals, in long-term care facilities and in the community. C. difficile is one of the most common causes of health care-associated infections in U.S. hospitals (Lessa, et al, 2015, New England Journal of Medicine). Recent estimates suggest C. difficile approaches 500,000 infections annually in the U.S. and is associated with approximately 20,000 deaths annually. (Guh, 2020, New England Journal of Medicine). Based on internal estimates, the recurrence rate of two of the three antibiotics currently used to treat CDI is between 20% and 40% among approximately 150,000 patients treated. We believe the annual incidence of CDI in the U.S. approaches 600,000 infections and a mortality rate of approximately 9.3%.

About the Microbiome in *Clostridioides difficile* Infection (CDI) and Bile Acid Metabolism

C. difficile can be a normal component of the healthy gut microbiome, but when the microbiome is thrown out of balance, the C. difficile can thrive and cause an infection. After colonization with C. difficile, the organism produces and releases the main virulence factors, the two large clostridial toxins A (TcdA) and B (TcdB). (Kachrimanidou, Microorganisms 2020, 8, 200; doi:10.3390/microorganisms8020200.) TcdA and TcdB are exotoxins that bind to human intestinal epithelial cells and are responsible for inflammation, fluid and mucous secretion, as well as damage to the intestinal mucosa.

Bile acids perform many functional roles in the GI tract, with one of the most important being maintenance of a healthy microbiome by inhibiting C. difficile growth. Primary bile acids, which are secreted by the liver into the intestines, promote germination of C. difficile spores and thereby increase the risk of recurrent CDI after successful treatment of an initial episode. On the other hand, secondary bile acids, which are produced by normal gut microbiota through metabolism of primary bile acids, do not induce *C. difficile* sporulation and therefore protect against recurrent disease. Since ibezapolstat treatment leads to minimal disruption of the gut microbiome, bacterial production of secondary bile acids continues which may contribute to an anti-recurrence effect.

About the Ibezapolstat Phase 2 Clinical Trial

The multicenter, open-label single-arm segment of this study (Phase 2a) is to be followed by a double- blind, randomized, active-controlled segment (Phase 2b) which, together, comprise the Phase 2 clinical trial. The Phase 2 clinical trial is designed to evaluate ibezapolstat in the treatment of CDI. Phase 2a of this trial is completed and was an open-label cohort of up to 20 subjects from study centers in the United States. In this cohort, 10 patients with diarrhea caused by C. difficile were treated with ibezapolstat 450 mg orally, twice daily for 10 days. All patients were followed for recurrence for 28± 2 days. Per protocol, after 10 patients of the projected 20 Phase 2a patients completed treatment, the Trial Oversight Committee assessed the safety and tolerability and made its recommendation regarding early termination of the Phase 2a study. Based on the recommendation of Acurx's Scientific Advisory Board (SAB) and Trial Oversight Committee, we terminated enrollment in Phase 2a early and are now advancing to Phase 2b. The SAB unanimously supported the early termination of the Phase 2a trial after 10 patients were enrolled in the trial instead of 20 patients as originally planned. The early termination was based on the evidence of meeting the primary and secondary endpoints of eliminating the infection (100%), with no recurrences of infection (100%), and with an acceptable adverse event profile. In the upcoming Phase 2b, approximately 64 additional patients with CDI will be enrolled and randomized in a 1:1 ratio to either ibezapolstat 450 mg every 12 hours or vancomycin 125

mg orally every 6 hours, in each case, for 10 days and followed for 28 ± 2 days following the end of treatment for recurrence of CDI. The two treatments will be identical in appearance, dosing times, and number of capsules administered to maintain the blind. This Phase 2 clinical trial also will evaluate pharmacokinetics (PK) and microbiome changes and continue to test for anti-recurrence microbiome properties, including the change from baseline in alpha diversity and bacterial abundance, especially overgrowth of healthy gut microbiota Actinobacteria and Firmicute phylum species during and after therapy.

About Acurx Pharmaceuticals, Inc.
Acurx Pharmaceuticals is a clinical stage biopharmaceutical company focused on developing new antibiotics for difficult to treat infections. The Company's approach is to develop antibiotic candidates that target the DNA polymerase IIIC enzyme and its R&D pipeline includes antibiotic product candidates that target Gram-positive bacteria, including Clostridioides difficile, methicillin-resistant Staphylococcus aureus (MRSA), vancomycin resistant Enterococcus (VRE) and drug-resistant Streptococcus pneumoniae (DRSP).

To learn more about Acurx Pharmaceuticals and its product pipeline, please visit www.acurxpharma.com.

Forward-Looking Statements
Any statements in this press release about our future expectations, plans and prospects, including statements regarding our strategy, future operations, prospects, plans and objectives, and other statements containing the words "believes," "anticipates," "plans," "expects," and similar expressions, constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: whether ibezapolstat will benefit from the QIDP designation; whether ibezapolstat will advance through the clinical trial process on a timely basis; whether the results of the clinical trials of ibezapolstat will warrant the submission of applications for marketing approval, and if so, whether ibezapolstat will receive approval from the FDA or equivalent foreign regulatory agencies where approval is sought; whether, if ibezapolstat obtains approval, it will be successfully distributed and marketed; and other risks and uncertainties described in the Company's annual report filed with the Securities and Exchange Commission on Form 10-K for the year ended December 31, 2021, and in the Company's subsequent filings with the Securities and Exchange Commission. Such forward-looking statements speak only as of the date of this press release, and Acurx disclaims any intent or obligation to update these forward-looking statements to reflect events or circumstances after the date of such statements, except as may be required by law.

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