U.S. FDA Approves NUZOLVENCE® (zoliflodacin), a First-in-Class, Single-dose, Oral Antibiotic for the Treatment of Uncomplicated Urogenital Gonorrhea in Adults and Adolescents

December 12, 2025

- FDA approval was based on results from the largest Phase 3 clinical trial ever conducted for a new treatment against *Neisseria gonorrhoeae* infection in regions with a high prevalence of gonorrhea across five countries.
- NUZOLVENCE is one of the first new treatments approved by the FDA for uncomplicated urogenital gonorrhea in nearly two decades.
- Gonorrhea affects more than 82 million people worldwide each year and is the second most reported bacterial STI in the United States.[1,2]

WALTHAM, Mass.--(BUSINESS WIRE)--Dec. 12, 2025-- Innoviva Specialty Therapeutics, a subsidiary of Innoviva, Inc. (NASDAQ: INVA), today announced that the U.S. Food and Drug Administration (FDA) has approved NUZOLVENCE® (zoliflodacin) for oral suspension, a first-in-class, single-dose oral medication for the treatment of uncomplicated urogenital gonorrhea in adults and pediatric patients 12 years and older weighing at least 35 kg. The development of NUZOLVENCE was part of a private, not-for-profit collaboration with The Global Antibiotic Research and Development Partnership (GARDP), which sponsored and led the Phase 3 clinical trial that supported FDA approval.

“The FDA’s approval of NUZOLVENCE marks a pivotal moment for patients and the broader healthcare community managing gonorrhea infections. For the first time in decades, both patients and their healthcare providers will have a single-dose, oral treatment option for uncomplicated urogenital gonorrhea,” said David Altarac, M.D., Chief Medical Officer, Innoviva Specialty Therapeutics. “This achievement underscores our commitment to advancing innovative therapies for infectious diseases and fighting antimicrobial resistance. It highlights the strength of our development capabilities, as well as our collaboration with GARDP and the global scientific community.”

Gonorrhea is the second most common sexually transmitted bacterial infection worldwide, with more than 82 million new cases each year. In the United States alone, the Centers for Disease Control and Prevention (CDC) estimates that over 543,000 cases are reported each year and over 1 million incident cases occur annually,[3] underscoring the significant public health impact. The highest rates are seen among sexually active men ages 20-24, though anyone who has unprotected sex can be at risk.[4] Without timely treatment, gonorrhea can lead to serious and potentially permanent health complications.

"The decades-long absence of new gonorrhea treatments, combined with rising global antibiotic resistance, has created significant challenges in managing this common but potentially serious sexually transmitted infection," said Edward W. Hook III, M.D., Professor Emeritus of Medicine, University of Alabama at Birmingham, and lead investigator of the Phase 3 NUZOLVENCE trial**.** “In the pivotal Phase 3 study, NUZOLVENCE demonstrated non-inferiority compared to the current standard injectable therapy, including in infections caused by drug-resistant strains, while offering the convenience of a single oral dose.”

“A new antibiotic that does not require injection and can be used for patients who are allergic to penicillin or related drugs meets two important unmet needs in the treatment of gonorrhea,” added Dr. Hook.

The emergence and spread of global drug-resistant infections have led the World Health Organization (WHO) to identify antimicrobial resistance as one of the 10 most critical global health threats.[5] The bacterium *Neisseria gonorrhoeae* has developed resistance to most classes of antibiotics used to treat these infections, including cephalosporins such as ceftriaxone, an injectable treatment, which is the currently recommended first line therapy for uncomplicated urogenital gonorrhea.

The Company plans to commercialize NUZOLVENCE in the second half of 2026, either in collaboration with a commercialization partner or independently.

About the Phase 3 Trial

In a pivotal Phase 3, multinational, randomized, controlled, open-label, trial, NUZOLVENCE (zoliflodacin) demonstrated non-inferiority compared to the combination of ceftriaxone plus azithromycin for the treatment of uncomplicated urogenital gonorrhea. NUZOLVENCE was generally well tolerated, and adverse events were comparable between treatment groups. No serious adverse events were reported.

The study enrolled a total of 930 patients, including adolescent and adult participants, to evaluate the efficacy and safety of a single 3g oral dose of zoliflodacin versus a single dose of 500mg intramuscular injection of ceftriaxone plus 1g oral azithromycin for the treatment of uncomplicated gonorrhea. This trial was the largest clinical trial ever conducted for a new treatment against *Neisseria gonorrhoeae* infection, with 16 trial sites in regions with a high prevalence of gonorrhea across five countries, including Belgium, the Netherlands, South Africa, Thailand, and the U.S.

About NUZOLVENCE® (zoliflodacin) for oral suspension

NUZOLVENCE is a first-in-class, single-dose, oral antibiotic FDA-approved for the treatment of uncomplicated urogenital gonorrhea, including strains resistant to current first-line therapies. NUZOLVENCE is a spiropyrimidinetrione bacterial type II topoisomerase inhibitor indicated for the treatment of uncomplicated urogenital gonorrhea due to Neisseria gonorrhoeae in adults and pediatric patients 12 years of age and older, weighing at least 35 kg. The NUZOLVENCE mechanism of action is distinct from that of currently approved antibiotics and has demonstrated activity against drug-resistant *Neisseria gonorrhoeae*.

Important Safety Information (ISI)

Indication and Usage

Indication

NUZOLVENCE® is a spiropyrimidinetrione bacterial type II topoisomerase inhibitor indicated for the treatment of uncomplicated urogenital gonorrhea due to *Neisseria gonorrhoeae* in adults and pediatric patients 12 years of age and older, weighing at least 35 kg.

Usage to Reduce Development of Drug-Resistant Bacteria: To reduce the development of drug-resistant bacteria and maintain the effectiveness of NUZOLVENCE and other antibacterial drugs, NUZOLVENCE should be used only to treat or prevent infections that are proven or strongly suspected to be caused by bacteria.

Contraindications

- Known history of hypersensitivity to NUZOLVENCE.
- Concomitant use with moderate or strong CYP3A4 inducers because this is predicted to result in decreased plasma concentrations of zoliflodacin and may reduce the NUZOLVENCE efficacy.

Warnings and Precautions

- **Embryo-Fetal Toxicity: Potential Risk for Pregnant Females**
  - Based on data from animal studies, NUZOLVENCE may cause fetal harm when administered to a pregnant female at clinically relevant doses. Avoid use during pregnancy. Advise pregnant females about the potential risk to the fetus with maternal exposure to NUZOLVENCE. Obtain a pregnancy test prior to initiation in persons of reproductive potential.
- **Embryo-Fetal Toxicity: Potential Risk Related to Males with Female Partners of Reproductive Potential:**
  - Based on data from an animal toxicity study, the risk of early pregnancy loss may be increased in female partners of males treated with NUZOLVENCE. Advise males with female partners of reproductive potential to use effective contraception for at least 3 months after NUZOLVENCE administration.
- **Testicular Toxicity and Risks to Male Fertility:**
  - Based on findings from animal studies, NUZOLVENCE may cause testicular toxicity and impair male fertility. An assessment of spermatogenesis has not been conducted in humans. Advise males that NUZOLVENCE may cause testicular toxicity and impair male fertility.
- **Hypersensitivity Reactions:**
  - Hypersensitivity reactions, including rash and pruritus, have been reported in patients receiving NUZOLVENCE. Before therapy with NUZOLVENCE is instituted, carefully inquire about previous hypersensitivity reactions to NUZOLVENCE. If an allergic reaction to NUZOLVENCE occurs, discontinue NUZOLVENCE and institute appropriate supportive measures.
- ***Clostridioides difficile* Infection (CDI):**
  - CDI has been reported with use of nearly all antibacterial agents and may range in severity from mild diarrhea to fatal colitis. Evaluate if diarrhea occurs.
- **Development of Drug-Resistant Bacteria:**
  - Prescribing NUZOLVENCE in the absence of a proven or strongly suspected bacterial infection or prophylactic indication is unlikely to provide benefit to the patient and increases the risk of the development of drug-resistant bacteria.

Adverse Reactions

The most common adverse reactions (≥2%) are headache, dizziness, nausea, and diarrhea. Laboratory abnormalities (neutropenia, leukopenia) were also observed.

Drug Interactions

Concomitant use with moderate or strong CYP3A4 inducers is contraindicated.

Use in Specific Populations

- **Pregnancy:** Based on findings from animal studies, NUZOLVENCE may cause fetal malformations or increased embryo-fetal loss when administered to a pregnant female. A postmarketing descriptive pregnancy safety study is available for NUZOLVENCE. If exposure occurs during pregnancy, pregnant females or their healthcare providers should report the pregnancy to Entasis Therapeutics at 1-800-651-3861.
- **Lactation:** There are no data on the presence of zoliflodacin in either human or animal milk, effects on the breastfed infant, or effects on milk production. If NUZOLVENCE is present in breast milk, intestinal flora alteration in the breastfed infant could occur.
- **Females and Males of Reproductive Potential:** Based on animal studies, NUZOLVENCE may cause fetal malformations when administered to a pregnant female at clinically relevant doses. Additionally, based on data from an animal study, the

risk of early pregnancy loss may be increased in partners of males treated with NUZOLVENCE.
    - Pregnancy Testing: Obtain a pregnancy test in females of reproductive potential prior to initiating treatment with NUZOLVENCE.
    - Contraception: Advise males with female partners of reproductive potential to use effective contraception for at least 3 months after their single-dose treatment of NUZOLVENCE.
    - Infertility: Based on data from repeat-dose animal toxicity and fertility studies, NUZOLVENCE may cause testicular toxicity and impair male fertility.
- **Pediatric Use:** The safety and effectiveness of NUZOLVENCE in pediatric patients younger than 12 years of age or weighing less than 35 kg have not been established.
- **Geriatric Use:** Clinical studies of NUZOLVENCE did not include sufficient numbers of patients aged 65 years and older to determine whether they respond differently than younger patients.

Reporting Adverse Events

You are encouraged to report negative side effects of prescription drugs to the FDA. To report SUSPECTED ADVERSE REACTIONS, please contact:

Innoviva Specialty Therapeutics™
1-800-651-3861
medinfo@istx.com

U.S. Food and Drug Administration
1-800-FDA-1088
www.fda.gov/medwatch

Before administering, please see the Full Prescribing Information for NUZOLVENCE.

About Innoviva Specialty Therapeutics

Innoviva Specialty Therapeutics, a subsidiary of Innoviva, Inc., is focused on delivering innovative therapies in critical care and infectious disease. Innoviva Specialty Therapeutics' products, through its affiliate, La Jolla Pharmaceutical Company, include GIAPREZA® (angiotensin II), approved to increase blood pressure in adults with septic or other distributive shock, and XERAVA® (eravacycline) for the treatment of complicated intra-abdominal infections in adults. Innoviva Specialty Therapeutics' products, through its affiliate, Entasis Therapeutics Inc., include XACDURO® (sulbactam for injection; durlobactam for injection), co-packaged for intravenous use approved for the treatment of adults with hospital-acquired bacterial pneumonia and ventilator-associated bacterial pneumonia caused by susceptible strains of *Acinetobacter baumannii-calcoaceticus* complex (*Acinetobacter*), and NUZOLVENCE® (zoliflodacin), a first-in-class, single-dose, oral antibiotic FDA-approved for the treatment of uncomplicated urogenital gonorrhea, including strains resistant to current first-line therapies. Through a licensing agreement with Basilea Pharmaceutica, Ltd., Innoviva Specialty Therapeutics retains U.S. marketing rights for ZEVTERA® (ceftobiprole), the only FDA-approved cephalosporin specifically designed to treat adult patients with acute bacterial skin and skin structure infections (ABSSSI), adult patients with *Staphylococcus aureus* bloodstream infections (bacteremia), including those with right-sided infective endocarditis, and adult and pediatric patients (3 months to less than 18 years old) with community-acquired bacterial pneumonia (CABP). For more information about Innoviva Specialty Therapeutics, please visit here.

About GARDP

The Global Antibiotic Research & Development Partnership (GARDP) is a not-for-profit global health organization driven to protect people from the rise and spread of drug-resistant infections, one of the biggest threats to us all. By forging the public-private partnerships that matter, we develop and make antibiotic treatments accessible to people who need them. Vital support for our work comes from the governments of Canada, Germany, Japan, Monaco, the Netherlands, Switzerland, the United Kingdom, the Canton of Geneva, the European Union, as well as the Gates Foundation, Global Health EDCTP3, GSK, the RIGHT Foundation, the South African Medical Research Council (SAMRC) and Wellcome. GARDP is registered under the legal name GARDP Foundation. www.gardp.org

About Innoviva

Innoviva, Inc. is a diversified holding company with a core royalties portfolio, a leading critical care and infectious disease platform known as Innoviva Specialty Therapeutics, and a portfolio of strategic investments in healthcare assets. Innoviva's royalty portfolio includes respiratory assets partnered with Glaxo Group Limited ("GSK"). Innoviva is entitled to receive royalties from GSK on sales of RELVAR®/BREO® ELLIPTA® and ANORO® ELLIPTA®. Innoviva's other innovative healthcare assets include infectious disease and critical care assets stemming from acquisitions of Entasis Therapeutics, including XACDURO® (sulbactam for injection; durlobactam for injection), co-packaged for intravenous use approved for the treatment of adults with hospital-acquired bacterial pneumonia and ventilator-associated bacterial pneumonia caused by susceptible strains of *Acinetobacter baumannii-calcoaceticus* complex and NUZOLVENCE® (zoliflodacin), a first-in-class, single-dose, oral antibiotic FDA-approved for the treatment of uncomplicated urogenital gonorrhea, including strains resistant to current first-line therapies, and La Jolla Pharmaceutical Company, including GIAPREZA® (angiotensin II), approved to increase blood pressure in adults with septic or other distributive shock and XERAVA® (eravacycline) for the treatment of complicated intra-abdominal infections in adults. Innoviva also markets ZEVTERA (ceftobiprole), an advanced-generation cephalosporin antibiotic, in the U.S. through an exclusive license from Basilea Pharmaceutica International Ltd, Allschwil. For more information about Innoviva, please visit here.

ANORO®, RELVAR® and BREO® are trademarks of the GSK group of companies. ZEVTERA is a trademark of Basilea Pharmaceutica Ltd, Allschwil.

Forward Looking Statements

This press release contains certain "forward-looking" statements as that term is defined in the Private Securities Litigation Reform Act of 1995 regarding, among other things, statements relating to goals, plans, objectives, and future events. Innoviva intends such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995. The words "anticipate", "expect", "goal", "intend", "objective", "opportunity", "plan", "potential", "target"

and similar expressions are intended to identify such forward-looking statements. Such forward-looking statements involve substantial risks, uncertainties, and assumptions. These statements are based on the current estimates and assumptions of the management of Innoviva as of the date of this press release and are subject to known and unknown risks, uncertainties, changes in circumstances, assumptions and other factors that may cause the actual results of Innoviva to be materially different from those reflected in the forward-looking statements. Important factors that could cause actual results to differ materially from those indicated by such forward-looking statements include, among others, risks related to: expected cost savings; lower than expected future royalty revenue from respiratory products partnered with GSK; the commercialization of RELVAR®/BREO® ELLIPTA®, ANORO® ELLIPTA®, GIAPREZA®, NUZOLVENCE®, XERAVA®, XACDURO® and ZEVTERA, the jurisdictions in which these products have been approved; the strategies, plans and objectives of Innoviva (including Innoviva's growth strategy and corporate development initiatives); the timing, manner, and amount of potential capital returns to shareholders; the status and timing of clinical studies, data analysis and communication of results; the potential benefits and mechanisms of action of product candidates; expectations for product candidates through development and commercialization; the timing of regulatory approval of product candidates; and projections of revenue, expenses and other financial items; the impact of the novel coronavirus ("COVID-19"); the timing, manner and amount of capital deployment, including potential capital returns to stockholders; and risks related to the Company's growth strategy. Other risks affecting Innoviva are described under the headings "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained in Innoviva's Annual Report on Form 10-K for the year ended December 31, 2024 and Quarterly Reports on Form 10-Q, which are on file with the Securities and Exchange Commission ("SEC") and available on the SEC's website at www.sec.gov. Past performance is not necessarily indicative of future results. No forward-looking statements can be guaranteed, and actual results may differ materially from such statements. Given these uncertainties, you should not place undue reliance on these forward-looking statements. The information in this press release is provided only as of the date hereof, and Innoviva assumes no obligation to update its forward-looking statements on account of new information, future events or otherwise, except as required by law.

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[1] World Health Organization (WHO), Multi-drug resistant gonorrhoea fact sheet, 22 October 2025.; https://www.who.int/news-room/fact-sheets/detail/multi-drug-resistant-gonorrhoea#:~:text=Key%20facts,and%2C%20more%20recently%2C%20quinolones.

[2] Drug Resistant Gonorrhea; Centers for Disease Control and Prevention 2024; https://www.cdc.gov/gonorrhea/hcp/drug-resistant

[3] Centers for Disease Control and Prevention; STI Statistics; Accessed November 14, 2025; https://www.cdc.gov/sti-statistics/annual/index.html

[4] Centers for Disease Control and Prevention; 2023 STI Surveillance Report; Page 126, Accessed November 2025; www.cdc.gov/sti-statistics/media/pdfs/2025/09/2023_STI_Surveillance_Report_FINAL_508.pdf

[5] Antimicrobial Resistance Collaborators. (2022): Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. The Lancet; 399(10325): P629-655. DOI: https://doi.org/10.1016/S0140-6736(21)02724-0

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