

FACT SHEET FOR HEALTHCARE PROVIDERS: EMERGENCY USE AUTHORIZATION FOR GOHIBIC

HIGHLIGHTS OF EMERGENCY USE AUTHORIZATION (EUA)

These highlights of the EUA do not include all the information needed to use GOHIBIC under the EUA. See FULL FACT SHEET FOR HEALTHCARE PROVIDERS for GOHIBIC.

GOHIBIC (vilobelimab) injection, for intravenous use

Original EUA Authorized Date: 04/2023

Revised EUA Authorized Date: 05/2023

RECENT MAJOR CHANGES

Emergency Use Authorization (1): revision to Information Regarding Available Alternatives for the EUA Authorized Use 05/2023

EMERGENCY USE AUTHORIZATION FOR GOHIBIC

The U.S. Food and Drug Administration has issued an EUA for the emergency use of GOHIBIC for the treatment of coronavirus disease 19 (COVID-19) in hospitalized adults when initiated within 48 hours of receiving invasive mechanical ventilation (IMV), or extracorporeal membrane oxygenation (ECMO). However, GOHIBIC is not FDA-approved for this use. (1)

See Full Fact Sheet for Healthcare Providers for the justification for emergency use of drugs during the COVID-19 pandemic, information on available alternatives, and additional information on COVID-19.

DOSAGE AND ADMINISTRATION

- Recommended dosage of GOHIBIC is 800 mg administered by intravenous infusion after dilution, for a maximum of 6 (six) doses over the treatment period as described below. (2.1)
- Start treatment within 48 hours of intubation (Day 1), followed by administration of GOHIBIC on Days 2, 4, 8, 15 and 22 as long as the patient is still hospitalized (even if discharged from ICU). (2.1)

Preparation and Administration

- Dilute 80 mL of GOHIBIC in 170 mL of 0.9% Sodium Chloride at room temperature using aseptic technique. (2.2)
- Administer diluted GOHIBIC via intravenous infusion over 30 – 60 minutes. (2.2)

DOSAGE FORMS AND STRENGTHS

Injection: 200 mg/20 mL (10 mg/mL) in single-dose vials for further dilution. (3)

CONTRAINDICATIONS

No contraindications have been identified based on limited available data on emergency use of GOHIBIC authorized under this EUA. (4)

WARNINGS AND PRECAUTIONS

- GOHIBIC has been associated with an increase of serious infections. (5.1)
- Hypersensitivity reactions have been reported. (5.2)

ADVERSE REACTIONS

The most common adverse reactions (incidence $\geq 3\%$) are pneumonia, sepsis, delirium, pulmonary embolism, hypertension, pneumothorax, deep vein thrombosis, herpes simplex, enterococcal infection, bronchopulmonary aspergillosis, hepatic enzyme increased, urinary tract infection, hypoxia, thrombocytopenia, pneumomediastinum, respiratory tract infection, supraventricular tachycardia, constipation, and rash. (6.1)

You or your designee must report all SERIOUS ADVERSE EVENTS or MEDICATION ERRORS potentially related to GOHIBIC by (1) submitting FDA Form 3500 [online](#), (2) by [downloading](#) this form and then submitting by mail or fax, or (3) contacting the FDA at 1-800-FDA-1088 to request this form. Please also provide a copy of this form to InflaRx GmbH at pvusa@inflarx.de (6.3)

USE IN SPECIFIC POPULATIONS

- Lactation:** Discontinue drug or nursing taking into consideration importance of drug to mother. (8.2)

See PATIENT AND CAREGIVER FACT SHEET.

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FULL FACT SHEET FOR HEALTHCARE PROVIDERS

1 EMERGENCY USE AUTHORIZATION

The U.S. Food and Drug Administration (FDA) has issued an Emergency Use Authorization (EUA) for the emergency use of GOHIBIC for the treatment of coronavirus disease 2019 (COVID-19) in hospitalized adults when initiated within 48 hours of receiving invasive mechanical ventilation (IMV), or extracorporeal membrane oxygenation (ECMO). However, GOHIBIC is not FDA-approved for this use.

Justification for Emergency Use of Drugs During the COVID-19 Pandemic

There is currently an outbreak of Coronavirus Disease 2019 (COVID-19) caused by SARS-CoV-2, a novel coronavirus. The Secretary of HHS has:

- Determined that there is a public health emergency, or significant potential for a public health emergency, related to COVID-19¹.
- Declared that circumstances exist justifying the authorization of emergency use of drugs and biological products for the prevention or treatment of COVID-19².

An EUA is a FDA authorization for the emergency use of an unapproved product or unapproved use of an approved product (*i.e.*, drug, biological product, or device) in the United States under certain circumstances, including, but not limited to, when the Secretary of HHS declares that there is a public health emergency, or significant potential for a public health emergency that affects the national security or the health and security of United States citizens living abroad, and that involves biological agent(s) or a disease or condition that may be attributable to such agent(s). Criteria for issuing an EUA include:

- The biological agent(s) can cause a serious or life-threatening disease or condition;
- Based on the totality of the available scientific evidence (including data from adequate and well-controlled clinical trials, if available), it is reasonable to believe that:
 - The product may be effective in diagnosing, treating, or preventing the serious or life-threatening disease or condition; and
 - The known and potential benefits of the product – when used to diagnose, prevent or treat such disease or condition – outweigh the known and potential risks of the product, taking into consideration the material threat posed by the biological agent(s)

¹ See U.S. Department of Health and Human Services, Determination of a Public Health Emergency and Declaration that Circumstances Exist Justifying Authorizations Pursuant to Section 564(b) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 360bbb-3. February 4, 2020; <https://www.federalregister.gov/documents/2020/02/07/2020-02496/determination-of-public-health-emergency>. See also U.S. Department of Health and Human Services, Amended Determination of a Public Health Emergency or Significant Potential for a Public Health Emergency Pursuant to Section 564(b) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 360bbb-3(b). March 15, 2023 (“Amended Determination”); <https://www.federalregister.gov/documents/2023/03/20/2023-05609/covid-19-emergency-use-authorization-declaration>.

² See U.S. Department of Health and Human Services, Declaration that Circumstances Exist Justifying Authorizations Pursuant to Section 564(b) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 360bbb-3, 85 FR 18250 (April 1, 2020); <https://www.federalregister.gov/documents/2020/04/01/2020-06905/emergency-use-authorization-declaration>. See also Amended Determination (“The declarations issued pursuant to section 564(b)(1) of the FD&C Act that circumstances exist justifying the authorization of emergency use of certain in vitro diagnostics, personal respiratory protective devices, other medical devices and drugs and biological products, as set forth in those declarations, and that are based on the February 4, 2020 determination, remain in effect until those declarations are terminated in accordance with section 564 of the FD&C Act.”).

- There is no adequate, approved, and available alternative to the product for diagnosing, preventing, or treating the serious or life-threatening disease or condition.

Information Regarding Available Alternatives for the EUA Authorized Use³

Veklury (remdesivir), a SARS-CoV-2 nucleotide analog RNA polymerase inhibitor, is an FDA-approved alternative to GOHIBIC when used for the treatment of COVID-19 in hospitalized adults and when initiated within 48 hours of receiving IMV, or ECMO. Veklury has demonstrated antiviral activity against SARS-CoV-2; whereas GOHIBIC acts by binding to C5a to block its interaction with the C5a receptor, both of which are components of the complement system thought to contribute to inflammation and worsening of COVID-19, offering a different mechanism of action.

Olumiant (baricitinib), a Janus kinase (JAK) inhibitor, is an FDA-approved alternative to GOHIBIC when used for the treatment of COVID-19 in hospitalized adults and when initiated within 48 hours of requiring IMV, or ECMO. As noted, GOHIBIC offers a different mechanism of action. In addition, GOHIBIC has an intravenous route of administration; whereas, Olumiant is available as tablets, offering an alternative route of administration to adult patients who are mechanically ventilated or on ECMO.

Actemra (tocilizumab), an interleukin-6 (IL-6) receptor antagonist, is an FDA-approved alternative to GOHIBIC when used for the treatment of COVID-19 in hospitalized adults and when initiated within 48 hours of receiving IMV, or ECMO. As noted, GOHIBIC offers a different mechanism of action.

Other therapeutics are currently authorized for the same use as GOHIBIC. For additional information on all products authorized for the treatment of COVID-19, please see <https://www.fda.gov/emergency-preparedness-and-response/mcm-legal-regulatory-and-policy-framework/emergency-use-authorization>.

For information on clinical studies of GOHIBIC and other therapies for the treatment of COVID-19, see www.clinicaltrials.gov.

2 DOSAGE AND ADMINISTRATION

2.1 Recommended Dosage

The recommended dosage of GOHIBIC for the treatment of adults with COVID-19 is 800 mg administered by intravenous infusion after dilution [see *Dosage and Administration (2.2)*] for a maximum of 6 (six) doses over the treatment period as described below.

Treatment should be started within 48 hours of intubation (Day 1) followed by administration on Days 2, 4, 8, 15 and 22 as long as the patient is hospitalized (even if discharged from ICU).

2.2 Preparation and Administration

³ This section only describes the uses for which an FDA-approved drug is considered to be an alternative to GOHIBIC. For additional information, including the full indications for the FDA-approved drugs referenced within this section, please refer to the relevant Prescribing Information at: Drugs@FDA: FDA-Approved Drugs. As stated in the Letter of Authorization, the emergency use of GOHIBIC must be consistent with the terms and conditions of its authorization.

Preparation

Using aseptic technique, dilute and prepare GOHIBIC for intravenous infusion before administration.

- For the recommended dose of 800 mg GOHIBIC, dilute 80 mL of GOHIBIC in 170 mL of 0.9% Sodium Chloride at room temperature.
- Use a 250 mL infusion bag of 0.9% Sodium Chloride solution USP and the follow steps below:
 - Withdraw 80 mL of 0.9% Sodium Chloride solution USP from the infusion bag and discard.
 - Withdraw the 80 mL of GOHIBIC from the vials and add slowly to the 0.9% Sodium Chloride solution USP infusion bag to a final concentration of 3.2 mg/mL.
 - To mix the solution, gently invert the bag to avoid foaming.

Storage of Diluted GOHIBIC

- Diluted GOHIBIC must be used within 4 hours when stored at room temperature 20°C to 25°C (68°F to 77°F).
- Diluted GOHIBIC stored under refrigeration at 2°C to 8°C (36°F to 46°F) must be used within 24 hours.
- After removal of diluted GOHIBIC from the refrigerator stored at 2°C to 8°C (36°F to 46°F), it must be left to acclimatize to room temperature prior to administration.

Administration

- Visually inspect for particulate matter and discoloration prior to administration, whenever solution and container permit. Do not use if discoloration or visible particles are present.
- Administer diluted GOHIBIC via intravenous infusion over 30 - 60 minutes.
- Avoid concomitant administration of GOHIBIC with other drugs in the same intravenous line.

3 DOSAGE FORMS AND STRENGTHS

Injection: 200 mg/20 mL (10 mg/mL) clear to slightly opalescent, colorless solution in a single-dose vial.

4 CONTRAINDICATIONS

No contraindications have been identified based on the limited available data for the emergency use of GOHIBIC under this EUA.

5 WARNINGS AND PRECAUTIONS

There are limited clinical data available for GOHIBIC. Serious and unexpected adverse events (AEs) may occur that have not been previously reported with GOHIBIC use.

5.1 Serious Infections

Serious infections due to bacterial, fungal, and viral pathogens have been reported in patients with COVID-19 receiving GOHIBIC. In patients with COVID-19, monitor for signs and symptoms of new infections during and after treatment with GOHIBIC. There is limited information regarding the use of GOHIBIC in patients with COVID-19 and concomitant active serious infections. The risks and benefits of treatment with GOHIBIC in COVID-19 patients with other concurrent infections should be considered [*see Adverse Reactions (6)*].

5.2 Hypersensitivity Reactions

Hypersensitivity reactions have been observed with GOHIBIC. If a severe hypersensitivity reaction occurs, administration of GOHIBIC should be discontinued and appropriate therapy initiated.

6 ADVERSE REACTIONS

6.1 Clinical Trial Experience

The following adverse reactions have been observed in the clinical studies of GOHIBIC that supported the EUA. The adverse reaction rates observed in these clinical studies cannot be directly compared to rates in the clinical studies of other products and may not reflect the rates observed in clinical practice.

The safety of GOHIBIC is based on PANAMO, a Phase 3 randomized, placebo-controlled trial in COVID-19 patients requiring IMV or ECMO [see *Clinical Studies (14)*]. The analysis of adverse reactions included a total of 364 adult patients who received at least one dose of either GOHIBIC (n=175) or placebo (n=189) plus standard of care. Patients received GOHIBIC 800 mg administered by intravenous infusion on Days 1, 2, 4, 8, 15 and 22 or placebo.

During the study, there were 62 deaths in the GOHIBIC arm and 85 deaths in the placebo arm [see *Clinical Studies (14)*]. Fatal infections occurred in more placebo patients. Nonfatal serious infections occurred in 58 patients (33.1%) in the GOHIBIC arm and in 55 patients (29.1%) in the placebo arm. The most commonly reported nonfatal serious infections with GOHIBIC were pneumonia (18.9% vs 13.8% in placebo), sepsis (14.9% versus 7.4% in placebo), and septic shock (9.1% versus 7.4% in placebo).

Discontinuation of study treatment due to an adverse reaction occurred in 2.9% of the GOHIBIC group and 1.6% of the placebo group. Adverse reactions leading to discontinuation of GOHIBIC included eczema, bronchopulmonary aspergillosis, rash, hemodynamic instability, thrombocytopenia, and multi-organ failure.

The most common adverse reactions occurring in at least 3% of GOHIBIC-treated patients and at least 1% more frequently than observed in the placebo arm are summarized in Table 1.

Table 1. Adverse Reactions that Occurred in $\geq 3\%$ of Patients Treated with GOHIBIC and at least 1% More Frequently than Observed in the Placebo Arm through Day 60

Adverse Reactions	GOHIBIC + SoC (N=175)		Placebo + SoC (N=189)	
	n	(%)	n	(%)
Pneumonia ¹	55	(31.4%)	44	(23.3%)
Sepsis ²	38	(21.7%)	30	(15.9%)
Delirium ³	22	(12.6%)	20	10.6%
Pulmonary embolism	19	(10.9%)	17	(9.0%)
Hypertension	16	(9.1%)	13	(6.9%)
Pneumothorax	14	(8.0%)	11	(5.8%)
Deep vein thrombosis	11	(6.3%)	9	(4.8%)
Herpes simplex	11	(6.3%)	5	(2.6%)

Adverse Reactions	GOHIBIC + SoC (N=175)		Placebo + SoC (N=189)	
	n	(%)	n	(%)
Enterococcal infection	10	(5.7%)	8	(4.2%)
Bronchopulmonary aspergillosis	10	(5.7%)	7	(3.7%)
Hepatic enzyme increased	9	(5.1%)	7	(3.7%)
Urinary tract infection	9	(5.1%)	6	(3.2%)
Hypoxia	8	(4.6%)	6	(3.2%)
Thrombocytopenia	8	(4.6%)	2	(1.1%)
Pneumomediastinum	8	(4.6%)	0	(0.0%)
Respiratory tract infection	7	(4.0%)	5	(2.6%)
Supraventricular tachycardia	7	(4.0%)	1	(0.5%)
Constipation	6	(3.4%)	3	(1.6%)
Rash	6	(3.4%)	0	(0.0%)

SoC = standard of care.

¹ "Pneumonia" includes preferred terms containing the term "pneumonia"; does not include "COVID-19 pneumonia"

² "Sepsis" includes preferred terms containing the term "sepsis".

³ "Delirium" includes the following preferred terms: Delirium, Intensive care unit delirium

A patient is only listed once (regardless of event numbers) but one patient can be listed in different categories with one or additional reactions

6.3 Required Reporting for Serious Adverse Events and Medication Errors

The prescribing healthcare provider and/or the provider's designee is/are responsible for mandatory reporting of all serious adverse events (SAEs)* and medication errors potentially related to GOHIBIC within 7 calendar days from the healthcare provider's awareness of the event, using FDA Form 3500 (for information on how to access this form, see below). The FDA requires that such reports, using FDA Form 3500, include the following:

- Patient demographics and baseline characteristics (e.g., patient identifier, age or date of birth, gender, weight, ethnicity, and race)
- A statement "GOHIBIC use for COVID-19 under Emergency Use Authorization (EUA)" under the **"Describe Event, Problem, or Product Use/Medication Error"** heading
- Information about the SAE or medication error (e.g., signs and symptoms, test/laboratory data, complications, timing of drug initiation in relation to the occurrence of the event, duration of the event, treatments required to mitigate the event, evidence of event improvement/disappearance after stopping or reducing the dosage, evidence of event reappearance after reintroduction, clinical outcomes).
- Patient's preexisting medical conditions and use of concomitant products
- Information about the product (e.g., dosage, route of administration, NDC #).

Submit AE and medication error reports, using Form 3500, to FDA MedWatch using one of the following methods:

- Complete and submit the report online: www.fda.gov/medwatch/report.htm
- Complete and submit a postage-paid FDA Form 3500 (<https://www.fda.gov/media/76299/download>) and return by:
 - Mail to MedWatch, 5600 Fishers Lane, Rockville, MD 20852-9787, or
 - Fax to 1-800-FDA-0178, or
- Call 1-800-FDA-1088 to request a reporting form

In addition, please provide a copy of all FDA MedWatch forms to:
InflaRx GmbH
Fax: **1-866-728-2630**
E-mail: pvusa@inflarx.de
Or call InflaRx GmbH at 1-888-254-0602 to report AEs.

The prescribing healthcare provider and/or the provider's designee is/are responsible for mandatory responses to requests from FDA for information about AEs and medication errors following receipt of GOHIBIC.

*SAEs are defined as:

- Death;
- A life-threatening AE;
- Inpatient hospitalization or prolongation of existing hospitalization;
- A persistent or significant incapacity or substantial disruption of the ability to conduct normal life functions;
- A congenital anomaly/birth defect;
- Other important medical event, which may require a medical or surgical intervention to prevent death, a life-threatening event, hospitalization, disability, or congenital anomaly

7 DRUG INTERACTIONS

No drug interaction studies have been conducted with GOHIBIC.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

There are no available data on GOHIBIC use in pregnant women to evaluate for a drug-associated risk of major birth defects, miscarriage or other adverse maternal or fetal outcomes. Placental transfer of monoclonal antibodies such as GOHIBIC is greater during the third trimester of pregnancy; therefore, potential effects on a fetus are likely to be greater during the third trimester of pregnancy. In an enhanced pre- and post-natal (ePPND) study conducted in cynomolgus monkeys, placental transport of GOHIBIC was observed but there was no evidence of fetal harm following intravenous administration of GOHIBIC throughout pregnancy at doses 2.5 times the maximum recommended human dose (MRHD) of 800 mg on a mg/kg basis (*see Data*).

The estimated background risk of major birth defects and miscarriage for the indicated population is unknown. All pregnancies have a background risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risk for major birth defects and miscarriage in clinical recognized pregnancies is 2% - 4% and 15% - 20%, respectively.

Data

Animal Data

In the ePPND study, pregnant cynomolgus monkeys received GOHIBIC from GD20 to GD22 (dependent on pregnancy determination), at the beginning of organogenesis, and once every 7 days until the end of gestation at intravenous doses up to 50.6 mg/kg/wk (2.5 times the MRHD on a mg/kg basis). There were no GOHIBIC-related adverse effects on maternal health, pregnancy outcome, embryo-fetal development, or neonatal growth and development up to 6 months of age (PND183). GOHIBIC crossed the placenta in cynomolgus monkeys and GOHIBIC plasma concentrations were

similar in infants relative to maternal animals on PND28 and were 8-12 times higher in infants relative to maternal animals on PND91. GOHIBIC was not detected in infant plasma on PND183.

8.2 Lactation

Risk Summary

There are no available data on the presence of GOHIBIC in either human or animal milk, the effects on the breastfed infant, or the effects on milk production.

Maternal IgG is known to be present in human milk. The effects of local gastrointestinal exposure and limited systemic exposure in the breastfed infant to GOHIBIC are unknown.

The lack of clinical data during lactation precludes clear determination of the risk of GOHIBIC to an infant during lactation. Therefore, the developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for GOHIBIC and any potential adverse effects on the breastfed child from GOHIBIC or from the underlying maternal condition.

8.3 Pediatric Use

GOHIBIC is not authorized or approved for the emergency use in pediatric patients for the treatment of coronavirus disease 2019 (COVID-19) in hospitalized patients when initiated within 48 hours of receiving invasive mechanical ventilation (IMV), or extracorporeal membrane oxygenation (ECMO).

8.4 Geriatric Use

Of the total number of GOHIBIC-treated patients in clinical studies for COVID-19 receiving invasive mechanical ventilation (IMV), or extracorporeal membrane oxygenation (ECMO), 53 (30%) were >65 years. No overall differences in effectiveness or safety of GOHIBIC have been observed between patients 65 years of age and older and younger adult patients.

11 DESCRIPTION

Vilobelimab is a chimeric human/mouse immunoglobulin G4 (IgG4) antibody consisting of mouse anti-human complement factor 5a (C5a) monoclonal binding sites (variable regions of heavy and light chain regions), and human gamma 4 heavy chain and kappa light chain constant regions. GOHIBIC is composed of 1,328 amino acids, and the glycosylated intact protein has an approximate molecular weight of 149 kDa produced in Chinese Hamster Ovary (CHO) cell line genetically engineered using ribonucleic acid transfer through a retro-vector system.

GOHIBIC (vilobelimab) injection is a clear to slightly opalescent, colorless solution for intravenous infusion after further dilution. GOHIBIC is provided in single-dose vials at a concentration of 200 mg/20 mL (10 mg/mL). Each mL also contains dibasic sodium phosphate (0.97 mg), monobasic sodium phosphate (0.4 mg), polysorbate 80 (0.5 mg), sodium chloride (8.8 mg), and Water for Injection. The pH is 6.6 – 7.3.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

GOHIBIC is a chimeric monoclonal IgG4-kappa antibody that binds to C5a with a dissociation constant of 9.6pM and blocks its interaction with the C5a receptor. C5a is part of the complement system and is activated as part of the innate immune response initiating an inflammatory cascade that includes increased vascular permeability, coagulation, proinflammatory cytokine release, and recruitment and activation of neutrophils and other myeloid cells.

12.2 Pharmacodynamics

The reduction of C5a plasma concentration was evaluated in PANAMO. The median plasma concentrations of C5a at baseline in patients with severe COVID-19 pneumonia requiring IMV or ECMO were elevated and the values were comparable between the GOHIBIC group (118.29 ng/mL) and the placebo group (104.62 ng/mL). In the GOHIBIC group, the median concentrations of C5a decreased to 14.53 ng/mL by Day 8 and remained at approximately this level up to Day 30 after the initiation of treatment. In the placebo group, the median concentrations of C5a remained approximately at the baseline level during the study up to Day 30 after the initiation of the treatment. However, the direct clinical relevance of C5a plasma concentration reduction is unclear.

12.3 Pharmacokinetics

In healthy subjects, following a single intravenous infusion of GOHIBIC ranging from 2 mg/kg to 4 mg/kg, GOHIBIC C_{max} showed dose proportionality while the AUC showed greater than dose proportionality. The elimination half-life of GOHIBIC following a 4 mg/kg single intravenous dose in healthy subjects was 95 hours.

Pre-dose plasma samples were collected in patients with severe COVID-19 pneumonia requiring IMV or ECMO. Following intravenous infusion of GOHIBIC 800 mg on Days 1, 2, and 4, the pre-dose geometric mean (geometric CV%) plasma concentration of GOHIBIC on Day 8 was 137.9 µg/mL (51%).

Drug Interaction Studies

No drug interaction studies have been conducted with GOHIBIC.

12.6 Immunogenicity

The observed incidence of anti-drug antibodies is highly dependent on the sensitivity and specificity of the assay. Differences in assay methods preclude meaningful comparisons of the incidence of anti-drug antibodies in the study described below with incidence of anti-drug antibodies in other studies, including those of GOHIBIC or of other vilobelimab products.

In the Phase 3 clinical study, 2 patients developed treatment-induced anti-drug antibodies; one patient in the GOHIBIC group and one patient in the placebo group. The clinical relevance of the presence of anti-drug antibodies is unclear.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Animal studies have not been conducted to evaluate the carcinogenic potential of GOHIBIC. The malignancy risk in humans from an antibody that binds C5a, such as GOHIBIC, is currently unknown.

Male and female fertility parameters were evaluated as part of the 13-week and 26-week repeat-dose toxicity studies, respectively. There were no treatment-related changes to sperm morphology, count, or motility in male monkeys administered GOHIBIC for 13-weeks at intravenous doses up to 50.6 mg/kg/week (approximately 2.5 times the MRHD on a mg/kg basis). Following 26-weeks intravenous administration of GOHIBIC, there were no effects on female fertility including menstrual cyclicity identified at doses up to 50 mg/kg/week (approximately 2.5 times the MRHD on a mg/kg basis).

14 CLINICAL STUDIES

Clinical data supporting this EUA are based on PANAMO (NCT04333420), a Phase 3, double-blind, randomized, placebo-controlled multicenter trial evaluating GOHIBIC for the treatment of COVID-19 in adult (≥ 18 years) patients requiring IMV or ECMO. The multinational trial was conducted in Europe, Latin America, Russia, and South Africa. Efficacy analyses were based on 368 patients, 177 in the GOHIBIC group and 191 in the placebo group. The mean age of participation was 56 years [range: 22 to 81 years] and 68.5% were male. Common co-existing medical conditions included hypertension (46.2%), obesity (40.8%) and diabetes (29.6%) in the overall study population. All patients were mechanically ventilated and three patients in each arm were on ECMO. Additional demographics and baseline characteristics of patients in PANAMO are provided in Table 2.

Table 2. Demographics and Baseline Characteristics of Patients in PANAMO

	GOHIBIC + SoC¹ (N=177)	Placebo + SoC (N=191)
Age Group, n (%)		
18 – 39 years	22 (12.4%)	30 (15.7%)
40 – 65 years	102 (57.6%)	103 (53.9%)
> 65 years	53 (29.9%)	58 (30.4%)
WHO 8-point ordinal scale score ²		
6 – Intubation and mechanical ventilation	72 (40.7%)	59 (30.9%)
7 – Ventilation + additional organ support (vasopressors, renal replacement therapy, ECMO)	105 (59.3%)	132 (69.1%)
Prior and concomitant medications		
Dexamethasone or systemic corticosteroid	176 (99.4%)	188 (98.4%)
Baricitinib	6 (3.4%)	6 (3.1%)
Tocilizumab	30 (16.9%)	31 (16.2%)
Remdesivir	10 (5.6%)	11 (5.8%)

¹ A total of 369 patients were randomized in the trial (178 to GOHIBIC and 191 to placebo), but one patient in the GOHIBIC group was randomized in error and not included in the efficacy analyses.

² World Health Organization 8-point ordinal scale

The primary endpoint in the study was time to death through Day 28. The Kaplan-Meier estimated 28-Day mortality rate in the GOHIBIC group was 31.7% and the estimated rate in the placebo group was 41.6%, resulting in a hazard ratio of 0.67 (95% CI [0.48, 0.96], $p < 0.05$, Table 3). Results were similar at Day 60 (Table 3). Mortality through day 28 and 60 in PANAMO are provided in Table 3. The percentage of patients alive and either discharged from the hospital or no longer requiring supplemental oxygen at Day 28 were comparable in the GOHIBIC (35.0%) and placebo (36.1%) groups.

Table 3. Mortality through Day 28 and Day 60 in PANAMO

	GOHIBIC + SoC (N=177)	Placebo + SoC (N= 191)
Day 28 Mortality		
Number of Deaths	54	77
Percentage with Death ¹	31.7%	41.6%
Hazard Ratio ² (95% CI)	0.67 (0.48, 0.96)	
Risk Difference ³ (95% CI)	-11.2% (-21.0%, -1.4%)	
Day 60 Mortality		
Number of Deaths	62	87
Percentage with Death ¹	36.5%	47.2%
Hazard Ratio ² (95% CI)	0.67 (0.48, 0.93)	
Risk Difference ³ (95% CI)	-12.2% (-22.0%, -2.4%)	

Abbreviations: CI = confidence interval

¹ Results from Kaplan-Meier estimates. Percentages will not be proportional to the number of deaths divided by the total number of patients due to missing values (8 patients missing mortality status in GOHIBIC + SoC and 9 in placebo + SOC).

² Results from Cox proportional hazards regression with treatment and age as covariates. P-values < 0.05.

³ Results based on a logistic regression model with treatment and age as covariates, and missing values handled by multiple imputation.

16 HOW SUPPLIED/STORAGE AND HANDLING

How supplied

GOHIBIC (vilobelimab) 200 mg/20 mL (10 mg/mL) injection is a clear to slightly opalescent, colorless solution in a single-dose vial (NDC 83000-110-04).

Storage and Handling

Store unopened vials refrigerated at 2°C to 8°C (36°F to 46°F) in the original carton to protect from light. Do not freeze. Do not shake.

17 PATIENT COUNSELING INFORMATION

As a healthcare practitioner, you must communicate to the patient and/or caregiver information consistent with the “FACT SHEET FOR PATIENTS AND CAREGIVERS” and provide them with a copy of this Fact Sheet prior to administration of GOHIBIC. However, if providing this information will delay administration of GOHIBIC to a degree that would endanger the life of a patient, then information must be provided to the caregiver as soon as feasible after GOHIBIC administration.

18 MANUFACTURER INFORMATION

Manufactured by InflaRx GmbH, Winzerlaer Street 2, 07745 Jena, Germany.