A GUIDE TO HOME INFUSION TREATMENT WITH VABOMERE®

Treatment and transitions of care for cUTI patients

VABOMERE®
meropenem and vaborbactam
for injection (4 g)

INDICATIONS AND USAGE

VABOMERE® (meropenem and vaborbactam) is indicated for the treatment of patients 18 years of age and older with complicated urinary tract infections (cUTI) including pyelonephritis caused by the following susceptible microorganisms: *Escherichia coli*, *Klebsiella pneumoniae*, and *Enterobacter cloacae species* complex.

IMPORTANT SAFETY INFORMATION

Contraindications

VABOMERE is contraindicated in patients with known hypersensitivity to any components of VABOMERE (meropenem and vaborbactam), or to other drugs in the same class or in patients who have demonstrated anaphylactic reactions to beta-lactam antibacterial drugs.

Please see Important Safety Information throughout and accompanying Full Prescribing Information.

Home infusion treatment offers flexibility for cUTI patients

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CRE infections are significantly more likely in patients with the following risk factors[1]:

- Chronic moderate-to-severe renal insufficiency[1-3]
- ≥3 comorbidities[1]
- Immune compromise[1,3,4]
- Indwelling catheters[1,2,4]
- Prior CRE infection[1,3]
- Prolonged hospitalization or antibiotic therapy[1,3-5]
- Long-term care in a nursing facility[3,4]

CRE=carbapenem-resistant Enterobacterales; cUTI=complicated urinary tract infections.

Use of home infusions among therapies for gram-negative infections increased by 8% from 2022 to 2023[6]*

12% of VABOMERE doses were administered in home infusion settings in 2023[6]

Home infusion treatment offers patients many benefits including:

Avoiding hospital-acquired infections
Prevent exposure to other patients with transmittable diseases[7]

Optimizing treatment accessibility
Increase flexibility and empower patients with a solution in the comfort of their own home or outpatient infusion center[7]

Increasing patient satisfaction
Treatment in home settings, including through the use of elastomeric pumps, may offer greater flexibility of care[7,8]

Reducing healthcare burden
Shorten inpatient stays and reduce readmissions through seamless transitions of care[9]

Consider VABOMERE home infusion treatment for the flexibility it provides appropriate patients with cUTI

*Analysis included VABOMERE, Avycaz, Fetroja, Recarbrio, and Zerbaxa.[6]

IMPORTANT SAFETY INFORMATION

Warnings and Precautions

- Hypersensitivity reactions were reported in patients treated with VABOMERE in the clinical trials. Serious and occasionally fatal hypersensitivity (anaphylactic) reactions and serious skin reactions have been reported in patients receiving therapy with beta-lactam antibacterial drugs. There have been reports of individuals with a history of penicillin hypersensitivity who have experienced severe hypersensitivity reactions when treated with another beta-lactam antibacterial drug. If an allergic reaction to VABOMERE occurs, discontinue the drug immediately.

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In the treatment of cUTI

VABOMERE® (meropenem and vaborbactam) is specifically designed to restore the power of meropenem against KPC-producing Enterobacterales[10]

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Background

- KPC is the most common gene detected among CRE isolates[11]
- VABOMERE combines meropenem, a trusted carbapenem, with vaborbactam, a unique-lactamase inhibitor to overcome resistance mechanisms[10]

VABOMERE maintains the well-established safety profile of meropenem[10,12]

- The most frequently reported adverse reactions leading to discontinuation of VABOMERE were hypersensitivity (1.1%; n=3/272) and infusion-related reactions (0.7%; n=2/272)[10]

The efficacy of VABOMERE was proven against a widely used anti-infective agent[2,10]

Clinical and microbiological response in the m-MITT population based on TANGO I[10]*

	VABOMERE n/N (%)	PIPERACILLIN/ TAZOBACTAM n/N (%)	DIFFERENCE (95% CI)
Overall success† (EOIVT)	98.4% (183/186)	94.3% (165/175)	4.1% (0.3%, 8.8%)
Clinical cure plus eradication‡ (TOC)	76.5% (124/162)	73.2% (112/153)	3.3% (-6.2%, 13.0%)

*The m-MITT population included all randomized patients who received any study drug and had at least 1 baseline uropathogen.[10]
†EOIVT includes patients with organisms resistant to piperacillin/tazobactam at baseline. Primary endpoint: 4.1% treatment difference (95% CI, 0.3%, 8.8%) exceeded the lower limit for noninferiority and also superiority.[10]
‡TOC visit excludes patients with organisms resistant to piperacillin/tazobactam at baseline in both arms.[10]

TANGO I Study description

A double-blind, double-dummy, randomized, multicenter, noninferiority clinical trial evaluated 545 adult patients with cUTI, including acute pyelonephritis. Patients were treated with VABOMERE (meropenem 2 g/vaborbactam 2 g infused over 3 hours) or piperacillin/tazobactam (piperacillin 4 g/tazobactam 0.5 g infused over 30 minutes) every 8 hours. After a minimum of 15 doses of IV therapy, patients who met prespecified criteria of improvement could be switched to oral levofloxacin.[10]

IMPORTANT SAFETY INFORMATION

Warnings and Precautions (cont'd)

- Seizures and other adverse Central Nervous System (CNS) experiences have been reported during treatment with meropenem, which is a component of VABOMERE. Close adherence to the recommended dosage regimens is urged, especially in patients with known factors that predispose to convulsive activity.

cUTI=complicated urinary tract infections; EOIVT=end of intravenous treatment; IV=intravenous; KPC=*Klebsiella pneumoniae* carbapenemase; m-MITT=microbiologically modified intent to treat; TOC=test of cure.

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VABOMERE® (meropenem and vaborbactam) dosing and administration

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Dosing[10]:

eGFR* (mL/min/1.73m²)	Recommended Dosage Regimen for VABOMERE†‡	Dosing Interval (infused over 3 hours)
≥50	VABOMERE 4 g (meropenem 2 g and vaborbactam 2 g)	Every 8 hours
30-49	VABOMERE 2 g (meropenem 1 g and vaborbactam 1 g)	Every 8 hours
15-29	VABOMERE 2 g (meropenem 1 g and vaborbactam 1 g)	Every 12 hours
<15	VABOMERE 1 g (meropenem 0.5 g and vaborbactam 0.5 g)	Every 12 hours

Preparation and administration[10]:

VABOMERE is supplied as a dry powder in a single-dose vial that must be constituted and diluted using aseptic technique prior to IV infusion.

1. Prepare the required dose by constituting the appropriate number of vials (see Preparation of VABOMERE doses table). Withdraw 20 mL of 0.9% Sodium Chloride Injection, USP from an infusion bag and constitute each vial of VABOMERE.
2. Mix gently to dissolve.
3. Immediately dilute the constituted solution further by withdrawing full or partial constituted vial contents from each vial and add back into the 0.9% Sodium Chloride Injection, USP infusion bag (see Preparation of VABOMERE doses table).
4. Complete the IV infusion of the diluted solution within 4 hours if stored at room temperature or 22 hours if stored refrigerated at 2°C to 8°C (36°F to 46°F).

IMPORTANT SAFETY INFORMATION

Warnings and Precautions (cont'd)

- *Clostridioides difficile*-associated diarrhea (CDAD) has been reported with use of nearly all antibacterial agents, including VABOMERE, and may range in severity from mild diarrhea to fatal colitis. Careful medical history is necessary since CDAD has been reported to occur over two months after the administration of antibacterial agents. If CDAD is suspected or confirmed, ongoing antibacterial drug use not directed against *C. difficile* may need to be discontinued.

Prior to administration[10]:

Visually inspect the diluted VABOMERE solution for particulate matter and discoloration (the color of the VABOMERE infusion solution for administration ranges from colorless to light yellow). Discard unused portion after use.

Preparation of VABOMERE doses[10]:

VABOMERE Dose (meropenem and vaborbactam)	Number of Vials to Constitute for Further Dilution	Volume to Withdraw From Each Constituted Vial for Further Dilution	Volume of Infusion Bag	Final Infusion Concentration of VABOMERE
4 g (2 g-2 g)	2 vials	Entire contents (approximately 21 mL)	250 mL	16 mg/mL
			500 mL	8 mg/mL
			1000 mL	4 mg/mL
2 g (1 g-1 g)	1 vial	Entire contents (approximately 21 mL)	125 mL	16 mg/mL
			250 mL	8 mg/mL
			500 mL	4 mg/mL
1 g (0.5 g-0.5 g)	1 vial	10.5 mL (discard unused portion)	70 mL	14.3 mg/mL
			125 mL	8 mg/mL
			250 mL	4 mg/mL

Storage and handling[10]:

- Store VABOMERE vials at 20°C to 25°C (68°F to 77°F); excursions are permitted to 15°C to 30°C (59°F to 86°F)

Monitoring considerations[10]:

- For patients with changing renal function, monitor serum creatinine concentrations and eGFR at least daily and adjust the dosage of VABOMERE accordingly
- For patients taking VABOMERE concomitantly with medications that have the potential to be affected, refer to the Prescribing Information for guidance on need for dosage adjustments and/or need for frequent drug level monitoring
- VABOMERE can be removed by hemodialysis
- For patients maintained on hemodialysis, VABOMERE should be administered after a hemodialysis session

*As calculated using the Modification of Diet in Renal Disease (MDRD) formula as follows: eGFR (mL/min/1.73m²) = 175 x (serum creatinine)$^{-1.154}$ x (age)$^{-0.203}$ x (0.742 if female) x (1.212 if African American).[10]

†Doses adjusted for renal impairment should be administered after a hemodialysis session.[10]

‡The total duration of treatment is for up to 14 days.[10]

eGFR=estimated glomerular filtration rate.

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Additional information

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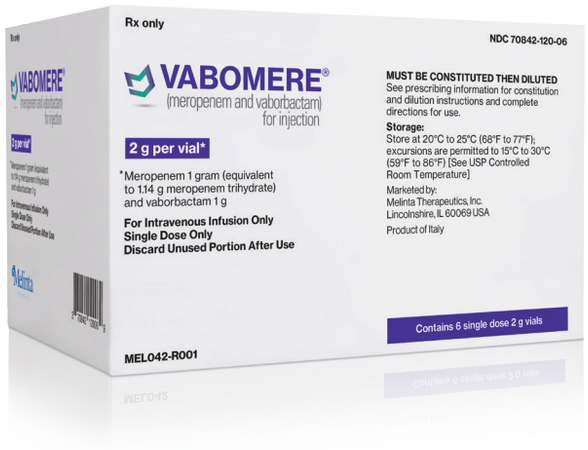
National drug code[13]:

VABOMERE® 2 g (meropenem and vaborbactam) for injection is supplied as a white to light yellow sterile powder for constitution in single-dose, clear glass vials sealed with a rubber stopper (not made with natural rubber latex) and an aluminum overseal.

NDC	Description
NDC – 70842-0120-01	Each vial contains 1 gram of meropenem (equivalent to 1.14 grams of meropenem trihydrate), 1 gram of vaborbactam, and 0.575 gram of sodium carbonate
NDC – 70842-0120-06	Packaging; each vial is supplied in cartons of 6 vials

J2186 is the permanent J code for appropriate billing of VABOMERE in the home infusion setting



Two single-dose vials=4 g dose.

For more information on home infusion billing and coding, scan the QR code

IMPORTANT SAFETY INFORMATION

Warnings and Precautions (cont'd)

- The concomitant use of VABOMERE and valproic acid or divalproex sodium is generally not recommended. Case reports in the literature have shown that co-administration of carbapenems, including meropenem, to patients receiving valproic acid or divalproex sodium results in a reduction in valproic acid concentrations. The valproic acid concentrations may drop below the therapeutic range as a result of this interaction, therefore increasing the risk of breakthrough seizures. If administration of VABOMERE is necessary, consider supplemental anticonvulsant therapy.

IMPORTANT SAFETY INFORMATION

Warnings and Precautions (cont'd)

- In patients with renal impairment, thrombocytopenia has been observed in patients treated with meropenem, but no clinical bleeding has been reported.
- Alert patients receiving VABOMERE on an outpatient basis regarding adverse reactions such as seizures, delirium, headaches and/or paresthesias that could interfere with mental alertness and/or cause motor impairment.

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INDICATIONS AND USAGE

VABOMERE® (meropenem and vaborbactam) is indicated for the treatment of patients 18 years of age and older with complicated urinary tract infections (cUTI) including pyelonephritis caused by the following susceptible microorganisms: *Escherichia coli*, *Klebsiella pneumoniae*, and *Enterobacter cloacae species* complex.

To reduce the development of drug-resistant bacteria and maintain the effectiveness of VABOMERE and other antibacterial drugs, VABOMERE should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible bacteria.

IMPORTANT SAFETY INFORMATION

Contraindications

VABOMERE is contraindicated in patients with known hypersensitivity to any components of VABOMERE (meropenem and vaborbactam), or to other drugs in the same class or in patients who have demonstrated anaphylactic reactions to beta-lactam antibacterial drugs.

Warnings and Precautions

- Hypersensitivity reactions were reported in patients treated with VABOMERE in the clinical trials. Serious and occasionally fatal hypersensitivity (anaphylactic) reactions and serious skin reactions have been reported in patients receiving therapy with beta-lactam antibacterial drugs. There have been reports of individuals with a history of penicillin hypersensitivity who have experienced severe hypersensitivity reactions when treated with another beta-lactam antibacterial drug. If an allergic reaction to VABOMERE occurs, discontinue the drug immediately.
- Seizures and other adverse Central Nervous System (CNS) experiences have been reported during treatment with meropenem, which is a component of VABOMERE. Close adherence to the recommended dosage regimens is urged, especially in patients with known factors that predispose to convulsive activity.
- *Clostridioides difficile*-associated diarrhea (CDAD) has been reported with use of nearly all antibacterial agents, including VABOMERE, and may range in severity from mild diarrhea to fatal colitis. Careful medical history is necessary since CDAD has been reported to occur over two months after the administration of antibacterial agents. If CDAD is suspected or confirmed, ongoing antibacterial drug use not directed against *C. difficile* may need to be discontinued.
- The concomitant use of VABOMERE and valproic acid or divalproex sodium is generally not recommended. Case reports in the literature have shown that co-administration of carbapenems, including meropenem, to patients receiving valproic acid or divalproex sodium results in a reduction in valproic acid concentrations. The valproic acid concentrations may drop below the therapeutic range as a result of this interaction, therefore increasing the risk of breakthrough seizures. If administration of VABOMERE is necessary, consider supplemental anticonvulsant therapy.
- In patients with renal impairment, thrombocytopenia has been observed in patients treated with meropenem, but no clinical bleeding has been reported.
- Alert patients receiving VABOMERE on an outpatient basis regarding adverse reactions such as seizures, delirium, headaches and/or paresthesias that could interfere with mental alertness and/or cause motor impairment.
- Prescribing VABOMERE in the absence of a proven or strongly suspected bacterial infection is unlikely to provide benefit to the patient and increases the risk of drug-resistant bacteria.
- As with other antibacterial drugs, prolonged use of VABOMERE may result in overgrowth of nonsusceptible organisms.

Adverse Reactions

The most frequently reported adverse reactions occurring in ≥3% of patients treated with VABOMERE were headache, phlebitis/infusion site reactions, and diarrhea.

Please see accompanying full Prescribing Information.

References: 1. Alexander EL, Loutit J, Tumbarello M, et al. Carbapenem-resistant *Enterobacteriaceae* infections: results from a retrospective series and implications for the design of prospective clinical trials. *Open Forum Infect Dis.* 2017;4(2):ofx063. doi:10.1093/ofi d/ofx063 **2.** Kaye KS, Bhowmick T, Metallidis S, et al. Effect of meropenem-vaborbactam vs piperacillin-tazobactam on clinical cure or improvement and microbial eradication in complicated urinary tract infection: the TANGO I randomized clinical trial. *JAMA.* 2018;319(8):788-799. doi:10.1001/jama.2018.0438 **3.** Alosaimy S, Lagnf AM, Morrisette T, et al. Real-world, multicenter experience with meropenem-vaborbactam for gram-negative bacterial infections including carbapenem-resistant *Enterobacterales* and *Pseudomonas aeruginosa*. *Open Forum Infect Dis.* 2021;8(8):ofab371. doi:10.1093/ofid/ofab371 **4.** Patients: information about CRE. Centers for Disease Control and Prevention. Updated November 13, 2019. Accessed January 24, 2024. https://www.cdc.gov/hai/organisms/cre/cre-patients.html **5.** Wunderink RG, Giamarellos-Bourboulis EJ, Rahav G, et al. Effect and safety of meropenem-vaborbactam versus best-available therapy in patients with carbapenem resistant Enterobacteriaceae infections: the TANGO II randomized clinical trial. *Infect Dis Ther.* 2018;7(4):439-455. doi:10.1007/s40121-018-0214-1 **6.** Data on file: Power BI Tool – Competitors Dashboard – Monthly Trend. Melinta Therapeutics, LLC. **7.** Mansour O, Arbaje AI, Townsend JL. Patient experiences with outpatient parenteral antibiotic therapy: results of a patient survey comparing skilled nursing facilities and home infusion. *Open Forum Infect Dis.* 2019;6(12):ofz471. doi:10.1093/ofid/ofz471 **8.** Chen IH, Martin EK, Nicolau DP, Kuti JL. Assessment of meropenem and vaborbactam room temperature and refrigerated stability of polyvinyl chloride bags and elastomeric devices. *Clin Ther.* 2020;42(4):606-613. doi:10.1016/j.clinthera.2020.01.021 **9.** Pollack CV Jr, Amin A, Ford WT Jr, et al. Acute bacterial skin and skin structure infections (ABSSSI): practice guidelines for management and care transitions in the emergency department and hospital. *J Emerg Med.* 2015;48(4):508-519. doi:10.1016/j.jemermed.2014.12.001 **10.** VABOMERE [package insert]: Melinta Therapeutics, LLC. **11.** Sabour S, Huang JY, Bhatnagar A. Detection and characterization of targeted carbapenem-resistant health care associated threats: findings from the antibiotic resistance laboratory network, 2017 to 2019. *Antimicrob Agents Chemother.* 2021;65(12):e0110521. doi:10.1128/AAC.01105-21 **12.** Merrem IV (meropenem for injection) [package insert]. Wilmington, DE: AstraZeneca Pharmaceuticals LP; 2016. **13.** Data on file: Melinta Therapeutics, LLC.

VABOMERE® (meropenem and vaborbactam) home infusion treatment

Use of home infusions among therapies for gram-negative infections increased by 8% from 2022 to 2023[6]*

12% of VABOMERE doses were administered in home infusion settings in 2023[6]

Home infusion treatment offers patients many benefits including:

- Avoiding hospital-acquired infections[7]
- Optimizing treatment accessibility[7]
- Increasing patient satisfaction[7,8]
- Reducing healthcare burden[9]

Choose VABOMERE for home infusion treatment for your appropriate patients with CRE cUTI

*Analysis included VABOMERE, Avycaz, Fetroja, Recarbrio, and Zerbaxa.[6]

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Contraindications

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