ComASP Oritavancin

ENGLISH

System for oritavancin susceptibility testing with the broth microdilution method.

DESCRIPTION

Oritavancin is a lipoglycopeptide with broad-spectrum activity against Gram-positive pathogens, such as staphylococci, including methicillin resistant *Staphylococcus aureus* (MRSA), streptococci and enterococci. This antimicrobial agent causes cell death by inhibiting cell wall synthesis as well as by depolarizing and permeabilizing the cellular membrane of susceptible organisms.

Oritavancin has been approved by the FDA and EMA for the treatment of adults with acute bacterial skin and skin structure infections (ABSSSI) caused by *Staphylococcus aureus* (including methicillin-susceptible and methicillin–resistant isolates), *Streptococcus pyogenes*, *Streptococcus agalactiae*, *Streptococcus dysgalactiae*, *Streptococcus anginosus* group (includes *S. anginosus*, *S. intermedius*, and *S. constellatus*), and *Enterococcus faecalis* (vancomycin-susceptible isolates only). Afterwards, it has been reported that oritavancin also offers enhanced coverage against vancomycin-susceptible enterococci, vancomycin-resistant enterococci (VRE), and vancomycin-intermediate and vancomycin-resistant staphylococci. Great benefits, compared to other drugs having similar therapeutic indications, derive from its single, once-only dosing regimen administered by intravenous infusion.

As claimed by the drug's Manufacturer as well, to reduce the development of drug-resistant bacteria and maintain the effectiveness of oritavancin and other antibacterial drugs, the antimicrobial agent should be used only to treat infections that are proven or strongly suspected to be caused by susceptible bacteria. Therefore, the confirmation of susceptibility of a given isolate to oritavancin becomes of primary importance.

ComASP Oritavancin is a 2-test panel containing the dried-up antibiotic in 15 two-fold dilutions (0.001 - 16 µg/ml).

The system is used to perform the broth microdilution (BMD) method for the antimicrobial susceptibility testing of Oritavancin as recommended by international standards (i.e. CLSI, EUCAST, ISO) but in a simpler and less time-consuming way.

KIT CONTENT

- 4 Systems (panels) of ComASP Oritavancin
  (panels individually packed in foil with silica gel desiccant)
- 8 Tubes of Mueller Hinton II Broth w P80 (3.6 ml)
- Sealing Film
- Instructions Sheet (includes Test Results Form), also available from **liofilchem.com/ifu-sds**

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as:

- 0.5 McFarland turbidity standard
- Physiological solution
- Incubator
- Quality control organisms
- Loops, swabs, test tubes, pipettes, culture media

CONFIGURATION

Test	Oritavancin Concentration (µg/ml)						
A Growth	0.001	0.002	0.004	0.008	0.016	0.03	0.06
0.12	0.25	0.5	1	2	4	8	16
B Growth	0.001	0.002	0.004	0.008	0.016	0.03	0.06
0.12	0.25	0.5	1	2	4	8	16

Growth indicates growth-control: No antimicrobial agent in the well.

PRINCIPLE OF THE METHOD

Two bacterial isolates may be tested on a single panel.
All wells related to either test A, or B are rehydrated with a standardized microbial suspension.
After incubation for 16-20 hours the result is read and interpreted.

COLLECTION AND STORAGE OF THE SAMPLE

ComASP Oritavancin is not for use directly with clinical or other specimens. The microorganism to be tested must first be isolated on a suitable non-selective culture medium. In case of mixed culture, selected colonies should be purified by subculturing.

TEST PROCEDURE

1. Take a panel from its envelope and leave it at room temperature for 10 min,
   DO NOT DISCARD THE ENVELOPE until both tests have been carried out.
2. Prepare a suspension of the test organism using either the direct colony suspension or growth method.
3. Standardize the suspension to the density of a McFarland 0.5 standard.
4. Optimally within 15 min of preparation, dilute the adjusted suspension 1:20 in saline; this will be the **Solution A**.
5. Add 0.4 ml of Solution A to a tube of MH II Broth w P80 * provided in the kit to obtain the **Solution B**.
6. Dispense 100 µl of Solution B into each well (Test A or B).
7. Cover the panel with the lid provided and incubate at 36 ± 2°C for 16-20 hours in ambient air.

* Mueller Hinton II Broth w P80 (g/l): Beef Extract 3.0 g; Acid Hydrolysate of Casein 17.5 g; Starch 1.5 g; Polysorbate 80 0.002% Distilled Water 1000 ml; pH 7.3 ± 0.1
(adjusted with appropriate salts to provide 20-25 mg/l of calcium and 10-12.5 mg/l of magnesium)

READING THE RESULTS

At the end of the incubation period observe the growth in the wells and establish the MIC, i.e. the lowest concentration of antibiotic that inhibits visible growth.

The result can be read visually or automatically. Reading by the naked eye can be improved by use of bright indirect lighting against a dark background.

Growth appears as turbidity or as a button at the bottom of the well (compare with the amount of growth in the growth-control well).

The growth-control well should be evaluated first. Make sure it is positive for growth. If not, check the viability of the colonies picked and repeat the test using a new row in the same panel or a new panel and a microbial culture of recent growth.

Note the results on the Test Results Form included in the kit (copy as many form as necessary).

INTERPRETATION OF THE RESULTS

The MIC obtained should be interpreted according to current EUCAST or CLSI interpretative criteria.

NOTE: Each individual panel is used for performing two tests. If only one test (either A or B) has been performed, use the film provided in the kit to seal the inoculated rows so to prevent any leakage of contaminated fluids. Then, return the panel into its own desiccant envelope and into the refrigerator (see STORAGE).

USER QUALITY CONTROL

Quality control of ComASP Oritavancin is performed using the following reference strains:

1. *Staphylococcus aureus* ATCC® 29213
2. *Enterococcus faecalis* ATCC® 29212

PERFORMANCE CHARACTERISTICS

Clinical, stock, and challenge isolates were tested across multiple clinical sites to determine Essential Agreement (EA) and Category Agreement (CA) of the ComASP system to the broth microdilution reference method. Essential Agreement occurs when the MIC of the ComASP system and the reference method agree exactly or is within ± 1 dilution of each other. Category Agreement occurs when the ComASP system results agree with the reference method with respect to the CLSI categorical interpretative criteria (susceptible, intermediate, resistant) and/or EUCAST categorical interpretative criteria (susceptible, resistant). The table on the next page summarizes the data from these studies.

Additionally, testing performed at multiple clinical sites demonstrated at least 95% reproducibility or greater within ± 1 doubling dilution for all antimicrobial agents listed in the table below.

Antimicrobial agent	Organism	N	% EA	% CA (CLSI breakpoints)	% CA (EUCAST breakpoints)
Oritavancin	*Staphylococcus* spp.[1]	97	96%	97%	97%
	Enterococcus spp.[2]	98	96%	95%	NA

[1] Including methicillin-resistant *S. aureus* (MRSA) isolates.

[2] Vancomycin-susceptible and vancomycin-resistant (VRE) isolates.

FACTORS THAT MAY INVALIDATE THE RESULTS

Contaminated culture; poor standardization of the inoculum; clinical material unsuitable; use of expired panels or expired supplementary reagents; non compliance with temperatures and times of incubation.

PRECAUTIONS

The product ComASP Oritavancin does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. ComASP Oritavancin is a disposable device for *in vitro* diagnostic (IVD) use only. The product must be used in the laboratory by properly trained personnel, using approved aseptic and safety methods for handling pathogenic agents.

STORAGE

Store ComASP Oritavancin at 2-8°C in the original packaging. Once an envelope is opened the panel should be used within 7 days. Keep away from direct sunlight and direct heat. Do not use the panels beyond the expiry date indicated on the label. Eliminate without using if there are signs of deterioration.

DISPOSAL OF USED MATERIAL

After use, ComASP Oritavancin and material that has come into contact with the sample must be decontaminated and disposed of in accordance with guidelines used in the laboratory for decontamination and disposal of potentially infected material.

REFERENCES

1. CLSI. Performance Standards for Antimicrobial Susceptibility Testing. 32nd ed. CLSI Supplement M100. Wayne, PA: Clinical and Laboratory Standards Institute; 2022.
2. CLSI. Methods for Dilution Antimicrobial Susceptibility Tests for Bacteria That Grow Aerobically. 11th ed. CLSI standard M07. Wayne, PA: Clinical and Laboratory Standards Institute; 2018.
3. The European Committee on Antimicrobial Susceptibility Testing. Breakpoint tables for interpretation of MICs and zone diameters. Version 12.0, 2022. http://www.eucast.org.
4. The European Committee on Antimicrobial Susceptibility Testing. Routine and extended internal quality control for MIC determination and disk diffusion as recommended by EUCAST. Version 12.0, 2022. http://www.eucast.org.
5. ISO 20776-1:2019. Susceptibility testing of infectious agents and evaluation of performance of antimicrobial susceptibility test devices — Part 1: Broth micro-dilution reference method for testing the in vitro activity of antimicrobial agents against rapidly growing aerobic bacteria involved in infectious diseases.

TABLE OF SYMBOLS

IVD *In Vitro* Diagnostic Medical	Do not reuse	Manufacturer	Contains sufficient for <n> tests	Temperature limits
LOT Batch code	Fragile, handle with care	Use by	Consult instructions for use	REF Catalogue number

Product	µg/ml	Packaging	Ref.
ComASP Oritavancin	0.001-16	4x2 tests	75010

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