



Plan Nacional
Resistencia
Antibióticos



II Jornada del Comité Español del Antibiograma (CoEsAnt)



Madrid, 12 de febrero de 2026



Estudios de Sensibilidad frente a Antifúngicos

Jesús Guinea

Servicio de Microbiología Clínica y Enfermedades Infecciosas

Hospital General Universitario Gregorio Marañón



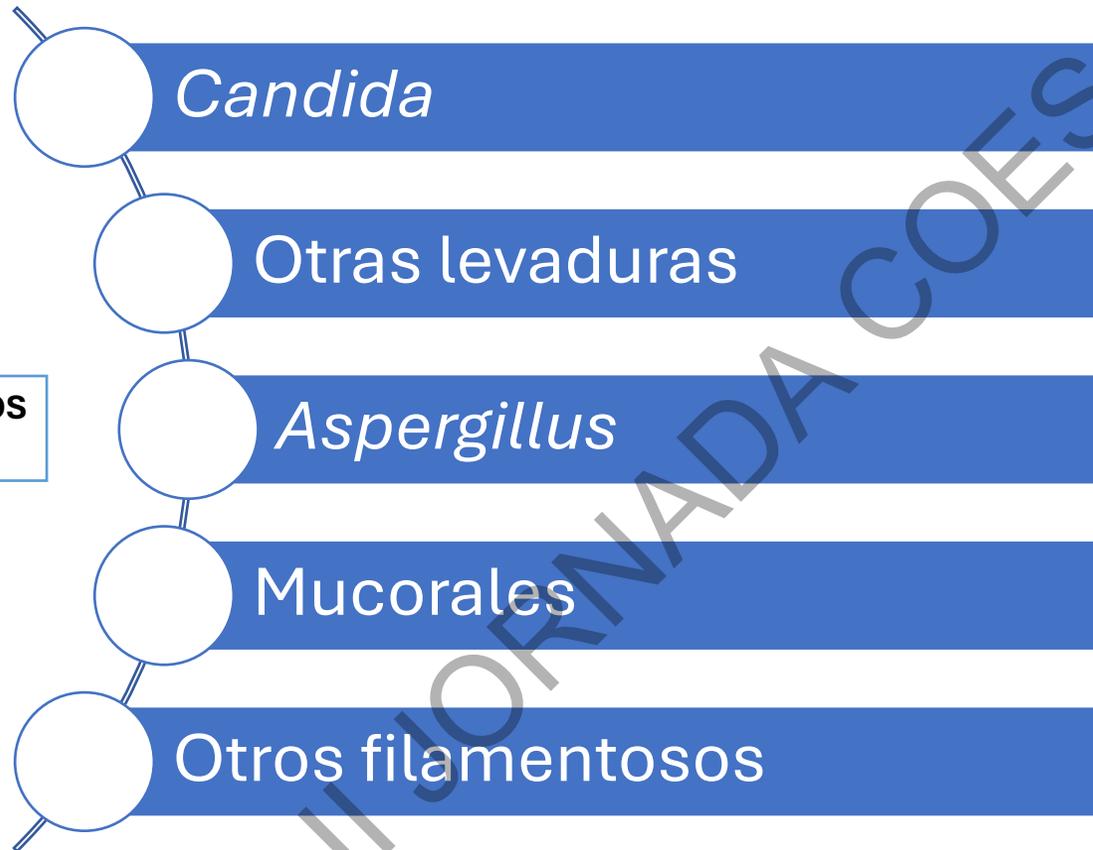
Hospital General Universitario
Gregorio Marañón

Comunidad de Madrid



II Jornada del Comité Español del Antibiograma (CoEsAnt)

Etiología micosis en expansión



AGENTES ETIOLÓGICOS
MICOSIS INVASORAS

Cryptococcus
Rhodotorula
Thichosporon
Geotrichum

Fusarium
Scedosporium
Lomentospora

Prioridad crítica



Cryptococcus neoformans



Candida auris



Aspergillus fumigatus



Candida albicans

Espectro de actividad de los antifúngicos "clásicos"

	Anfo B	Fluco	Vori	Posa	Isavu	Candinas
<i>C. albicans</i>	Verde	Verde	Verde	Verde	Verde	Verde
<i>C. parapsilosis</i>	Verde	Verde	Verde	Verde	Verde	Naranja
<i>C. glabrata</i>	Verde	Naranja	Naranja	Naranja	Naranja	Verde
<i>C. tropicalis</i>	Verde	Verde	Verde	Verde	Verde	Verde
<i>C. krusei</i>	Verde	Rojo	Naranja	Naranja	Naranja	Verde
<i>C. lusitaniae</i>	Rojo	Verde	Verde	Verde	Verde	Verde
<i>C. auris</i>	Naranja	Rojo	Naranja	Verde	Verde	Naranja
Otras <i>Candida</i> spp	Verde	Naranja	Naranja	Naranja	Naranja	Naranja
Otras levaduras	Naranja	Naranja	Verde	Verde	Verde	Rojo

Anfo B: anfotericina B; Fluco: fluconazol; Vori: voriconazol; Posa: posaconazol; Isavu: isavuconazol

Imagen J. Guinea

Rojo: inactivo; Naranja: parcialmente activo; Verde: activo

Espectro de actividad de los antifúngicos "clásicos"

	Anfo B	Fluco	Vori	Posa	Isavu	Candinas
<i>Aspergillus fumigatus ss</i>	Verde	Rojo	Verde	Verde	Verde	Naranja
<i>A. fumigatus</i> especies crípticas	Rojo	Rojo	Rojo	Rojo	Rojo	Naranja
<i>A. terreus</i>	Rojo	Rojo	Verde	Verde	Verde	Naranja
<i>A. flavus</i>	Rojo	Rojo	Verde	Verde	Verde	Naranja
<i>A. nidulans</i>	Rojo	Rojo	Verde	Verde	Verde	Naranja
<i>A. ustus</i>	Verde	Rojo	Rojo	Rojo	Rojo	Naranja
Mucorales	Verde	Rojo	Rojo	Naranja	Naranja	Rojo
<i>Fusarium</i>	Verde	Rojo	Naranja	Naranja	Naranja	Rojo
<i>Lomentospora prolificans</i>	Naranja	Rojo	Rojo	Rojo	Rojo	Rojo
<i>Scedosporium boydii</i> <i>Scedosporium apiospermum</i>	Rojo	Rojo	Naranja	Naranja	Naranja	Rojo

Anfo B: anfotericina B; Fluco: fluconazol; Vori: voriconazol; Posa: posaconazol; Isavu: isavuconazol

Imagen J. Guinea

Rojo: inactivo; Naranja: parcialmente activo; Verde: activo

RESISTENCIA INTRÍNSECA

RESISTENCIA universal inferida tras identificación a nivel de especie

VALOR MARGINAL DE AFST

TODAS las cepas son resistentes

AFST NO IMPACTO EN DECISIONES CLINICAS

Pide a tu micólogo que realice una ID correcta y precisa



RESISTENCIA ADQUIRIDA

SUSCEPTIBILIDAD universal no puede ser inferida tras identificación a nivel de especie

VALOR RELEVANTE DE AFST

ALGUNAS cepas son resistentes

DECISIONES CLINICAS GUIADAS POR AFST

Pide a tu micólogo que además realice AFST



JORNADA COESANT

Estudios de susceptibilidad a antifúngicos

ASPERGILLUS

MONITORIZACIÓN DE RESISTENCIA

CUALQUIER aislado clínico

MEJORAR RESPUESTA CLÍNICA

SOLO aislados considerados significativos

OTROS HONGOS FILAMENTOSOS

CANDIDA

MONITORIZACIÓN DE RESISTENCIA

CUALQUIER aislado clínico

MEJORAR RESPUESTA CLÍNICA

Hemocultivos, muestras intraabdominales, o muestra foco infección

OTRAS LEVADURAS

**PAPEL MARGINAL
INTERPRETAR PRECAUCIÓN**

Get a correct identification first!!!



Standard vs Commercial methods: strengths and pitfalls

	Standard procedures	Commercial methods
Availability <ul style="list-style-type: none">• Implemented in hospitals• Staff familiar with performance		
Proper validation <ul style="list-style-type: none">• Resistant isolates tested• Sensitivity and Specificity		
Easy to MIC reading <ul style="list-style-type: none">• Low subjectivity• Clear and well-defined endpoints		
Easy to MIC interpretation <ul style="list-style-type: none">• Guidance to classify isolates• Breakpoints validated		

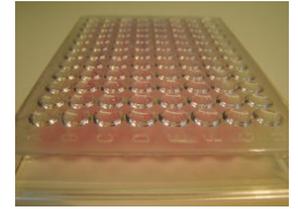


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M27

Reference Method for Broth Dilution
Antifungal Susceptibility Testing of Yeasts

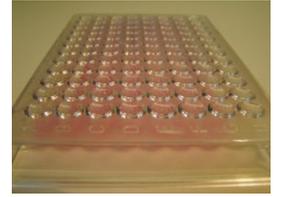


CLINICAL AND
LABORATORY
STANDARDS
INSTITUTE®

3rd Edition

M38

Reference Method for Broth Dilution
Antifungal Susceptibility Testing of
Filamentous Fungi



EUCAST E.DEF 9.4 (March 2022)

EUCAST antifungal microdilution method for moulds

EUCAST DEFINITIVE DOCUMENT E.DEF 9.4

Method for the determination of broth dilution minimum inhibitory concentrations of antifungal agents for conidia forming moulds

J Guinea^{*1,2,3}, J Meletiadis^{*4,5}, S Arikan-Akdagli⁶, K Muehlethaler⁷, G Kahlmeter⁸, M C Arendrup^{9,10,11} and the Subcommittee on Antifungal Susceptibility Testing (AFST) of the ESCMID European Committee for Antimicrobial Susceptibility Testing (EUCAST)**

EUCAST E.Def 10.2 (June 2022)

EUCAST agar screening for resistance in *Aspergillus* spp

EUCAST DEFINITIVE DOCUMENT E.Def 10.2

Screening method for the detection of azole and echinocandin resistance in *Aspergillus* using antifungal-containing agar plates, exemplified by *A. fumigatus*

J. Meletiadis^{1,2}, J Guinea^{3,4,5}, S. Arikan-Akdagli⁶, N. Friberg⁷, G. Kahlmeter⁸, MC Arendrup^{9,10,11} and the Subcommittee on Antifungal Susceptibility Testing (AFST) of the ESCMID European Committee for Antimicrobial Susceptibility Testing (EUCAST)*

EUCAST E.Def 7.4 (October 2023)

EUCAST antifungal MIC method for yeasts

**Actualizado estudio
rezafungina**

EUCAST Definitive Document E.Def 7.4

Method for the determination of broth dilution minimum inhibitory concentrations of antifungal agents for yeasts

J Guinea^{1#}, J. Meletiadis^{2,3#}, S. Arikan-Akdagli⁴, C. Giske⁵, K. Muehlethaler⁶, M. C. Arendrup^{7,8} and the Subcommittee on Antifungal Susceptibility Testing (AFST) of the ESCMID European Committee for Antimicrobial Susceptibility Testing (EUCAST)*

Contributed equally and share 1st author position.

Clinical Microbiology and Infection 27 (2021) 55–60



ELSEVIER

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journal homepage: www.clinicalmicrobiologyandinfection.com



Narrative review

How to: perform antifungal susceptibility testing of microconidia-forming dermatophytes following the new reference EUCAST method E.Def 11.0, exemplified by *Trichophyton*^{*}

Maiken C. Arendrup^{1,2,3,*}, Gunnar Kahlmeter⁴, Jesus Guinea^{5,6,7,†}, Joseph Meletiadis^{8,9,†}, the Subcommittee on Antifungal Susceptibility Testing (AFST) of the ESCMID European Committee for Antimicrobial Susceptibility Testing (EUCAST)

European Committee on Antimicrobial Susceptibility Testing

Breakpoint tables for interpretation of MICs for antifungal agents

Version 12.0, valid from 2025-06-26

Content	Page	
Notes	1	
Guidance on reading EUCAST antifungal breakpoint tables	2	
Information on technical uncertainty	3	
Changes	4	
<i>Candida</i> and <i>Cryptococcus</i> spp.	5	
<i>Aspergillus</i> spp.	6	
Dosages	7	
Antimicrobial susceptibility tests on groups of organisms or agents for which there are no EUCAST breakpoints		Link to Guidance document for interpretation of MICs for yeasts when there are no breakpoints

This document should be cited as: "The European Committee on Antimicrobial Susceptibility Testing. Breakpoint tables for interpretation of MICs for antifungal agents, version 12.0, 2025. <http://www.eucast.org/astoffungi/clinicalbreakpointsforantifungals/>.

European Committee on Antimicrobial Susceptibility Testing

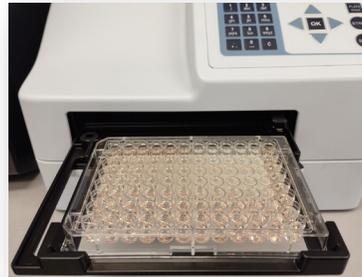
Breakpoint tables for interpretation of MICs for antifungal agents

Version 12.0, valid from 2025-06-26

Version 12.0, 2025-06-26	Changes (cells containing a change, a deletion or an addition) from v. 11.0 are marked yellow.
General	
Yeast	<p>To allow for broader and more inclusive coverage of yeast species, the title '<i>Candida</i> and <i>Cryptococcus</i> spp.' has been revised to 'Yeasts'. Breakpoints for <i>Candida auris</i> were added for micafungin, anidulafungin, and amphotericin B, as well as a note regarding fluconazole vs. <i>C. auris</i>. The non-species specific breakpoints have been omitted as detailed guidance has been provided in the separate guidance document for species without breakpoints ("What to do when there are no breakpoints - guidance for rare yeasts")</p> <p>Comment 7, which noted the rarity of voriconazole resistance in <i>C. parapsilosis</i>, has been removed, as isolates harboring ERG11 mutations associated with cross-resistance to voriconazole have become increasingly common in several countries.</p> <p>The following comment was removed, as breakpoints have previously been established for <i>Candida tropicalis</i>: "MICs for <i>C. tropicalis</i> are 1–2 two-fold dilution steps higher than for <i>C. albicans</i> and <i>C. glabrata</i>. In the clinical study, successful outcomes were numerically slightly lower for <i>C. tropicalis</i> than for <i>C. albicans</i> at both dosages (100 and 150 mg daily). However, the difference was not significant, and whether it translates into a clinically relevant difference is unknown".</p> <p>Finally, the micafungin breakpoint for <i>C. glabrata</i> has been elevated to 0.06 mg/L.</p>
<i>Aspergillus</i> spp.	<p>Posaconazole and/or isavuconazole resistant breakpoints were adjusted for <i>Aspergillus fumigatus</i>, <i>Aspergillus flavus</i>, and <i>Aspergillus terreus</i> to also cover the ATU range. The ECOFF and breakpoint for <i>A. nidulans</i> has been elevated one dilution to avoid misclassifications of wild type isolates as resistant.</p>
Dosages	<p>Dosage recommendations were added for isolates in the "I" category for amphotericin B.</p> <p>Dosage recommendations were also added for flucytosine and terbinafine.</p>

Methods for antifungal susceptibility testing

- **Broth microdilution:** reference methods



- **Marketed methods**

- **Sensititre™ YeastOne™** (ThermoFisher Scientific)

- **Etest®** (bioMérieux)

- **VITEK®2** (bioMérieux)



Sensititre™
YeastOne™



Etest®



VITEK®2

RESISTENCIA EN *CANDIDA* EN NUESTRO ENTORNO

- **Como regla general podemos asumir que....**
 - No hay resistencia a anfotericina B en *Candida*
 - Resistencia a azoles o equinocandinas anecdótica en *C. albicans* o *C. tropicalis*
 - Despistaje de resistencia a equinocandinas y fluconazol en *C. glabrata*
 - Con las levaduras diferentes a *Candida* las cosas se complican
- **Pero tenemos retos actuales....**
 - Resistencia a azoles en *C. parapsilosis*
 - Emergencia de *C. auris*

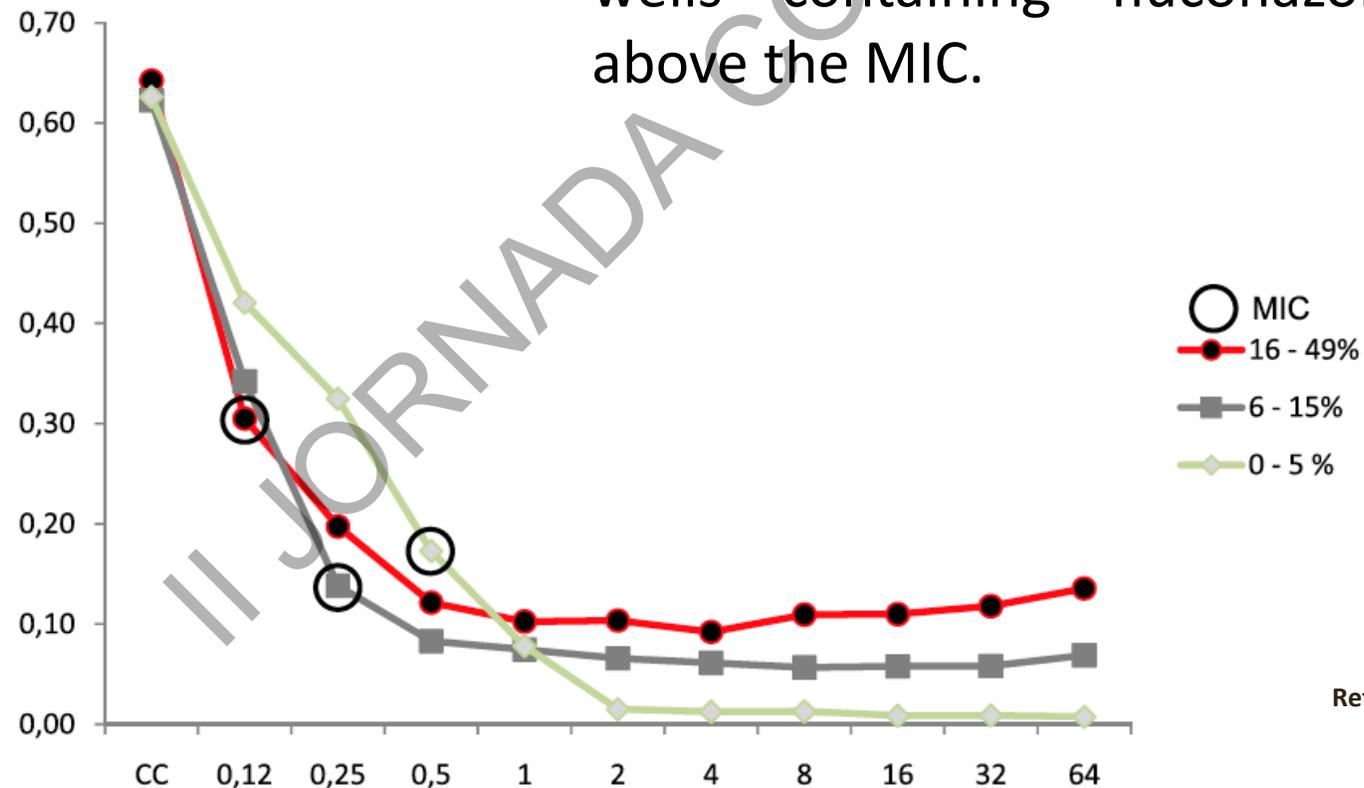


Original Article

Scope and frequency of fluconazole trailing assessed using EUCAST in invasive *Candida* spp. isolates

Laura Judith Marcos-Zambrano^{1,2}, Pilar Escribano^{1,2,3},
Carlos Sánchez-Carrillo^{1,2,3}, Emilio Bouza^{1,2,3,4} and Jesús Guinea^{1,2,3,4,*}

Trailing: presence of residual yeast growth in wells containing fluconazole concentrations above the MIC.





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Clinical Microbiology and Infection

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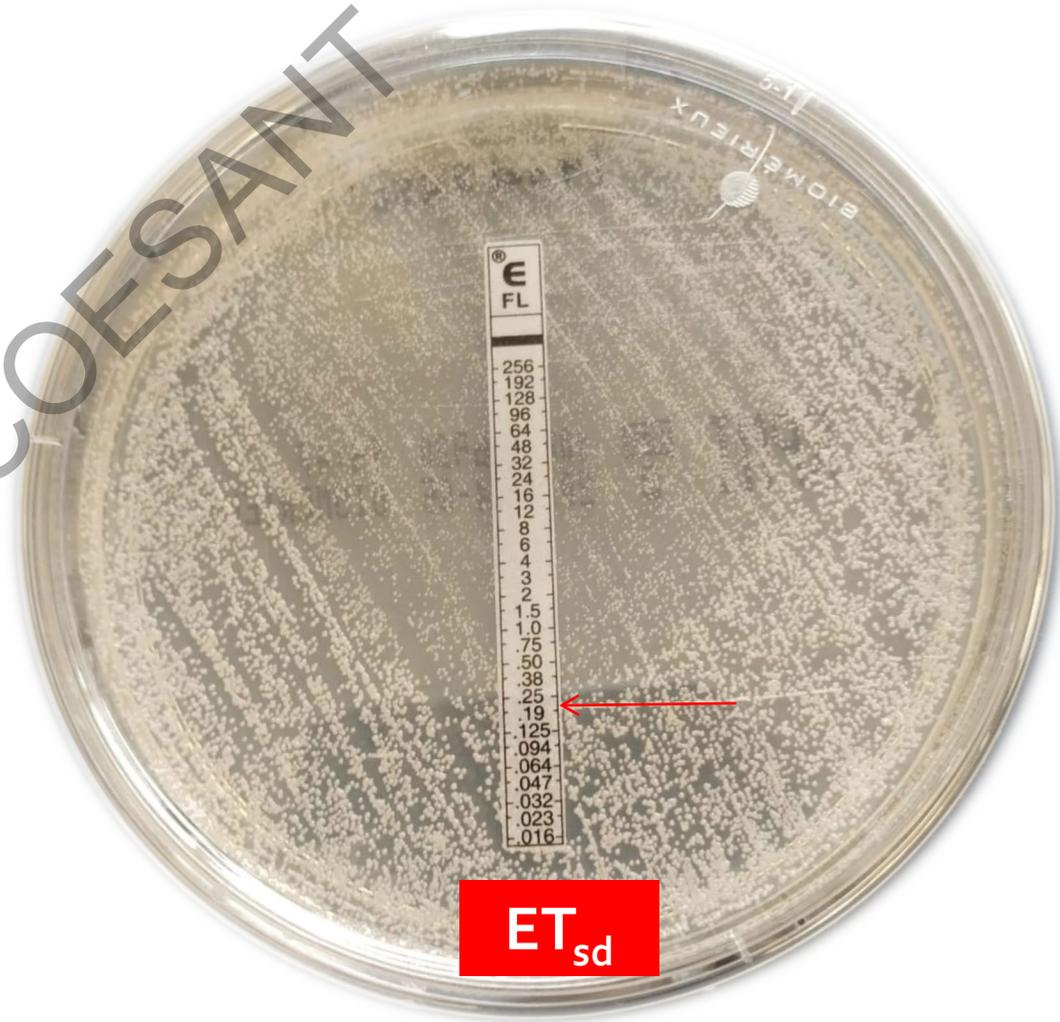
Original article

Evaluation of the possible influence of trailing and paradoxical effects on the clinical outcome of patients with candidemia

C. Rueda¹, M. Puig-Asensio³, J. Guinea², B. Almirante³, M. Cuenca-Estrella¹,
O. Zaragoza^{1,*} for the members of the CANDIPOP Project from GEIH-GEMICOMED
(SEIMC) and REIPI⁴



ET_{dir}



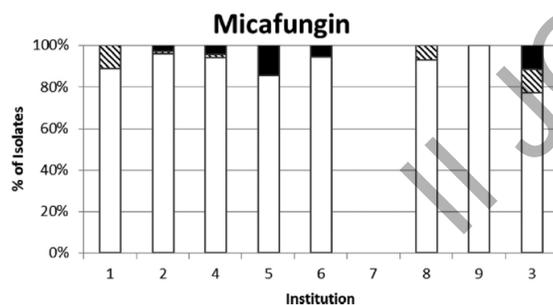
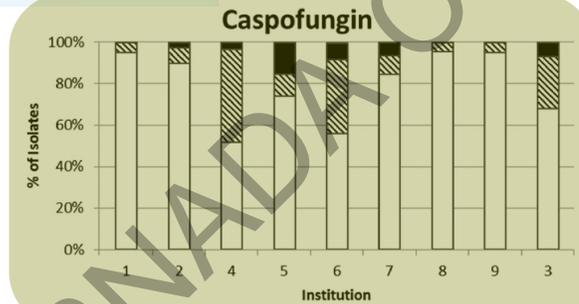
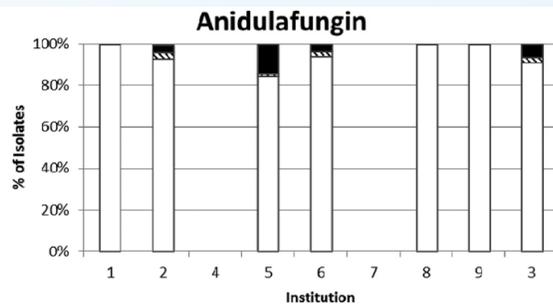
ET_{sd}

II JORNADA COESANT

Real-World Experience with Echinocandin MICs against *Candida* Species in a Multicenter Study of Hospitals That Routinely Perform Susceptibility Testing of Bloodstream Isolates

Gregory A. Eschenauer,^a M. Hong Nguyen,^b Shmuel Shoham,^c Jose A. Vazquez,^{d*} Arthur J. Morris,^e William A. Pasculle,^f Christine J. Kubin,^g Kenneth P. Klinker,^h Peggy L. Carver,ⁱ Kimberly E. Hanson,^j Sharon Chen,^k Simon W. Lam,^l Brian A. Potoski,^m Lloyd G. Clarke,^a Ryan K. Shields,^b Cornelius J. Clancy^{b,n}

CM modal en cada centro en rangos estrechos (≤ 2)



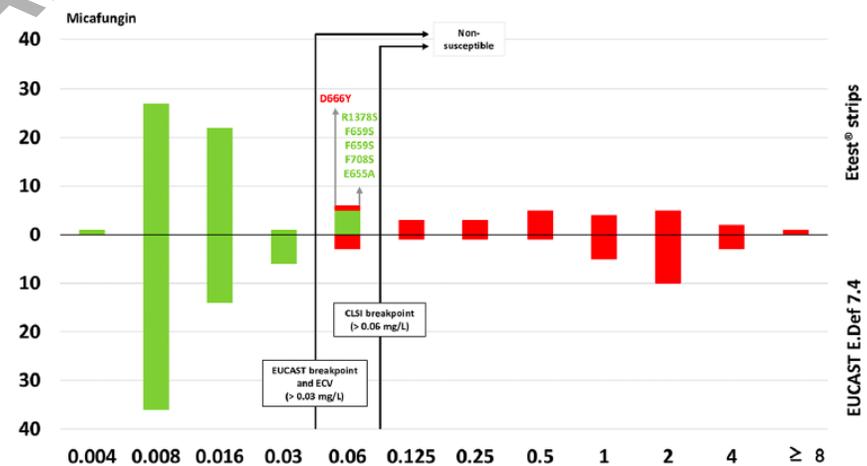
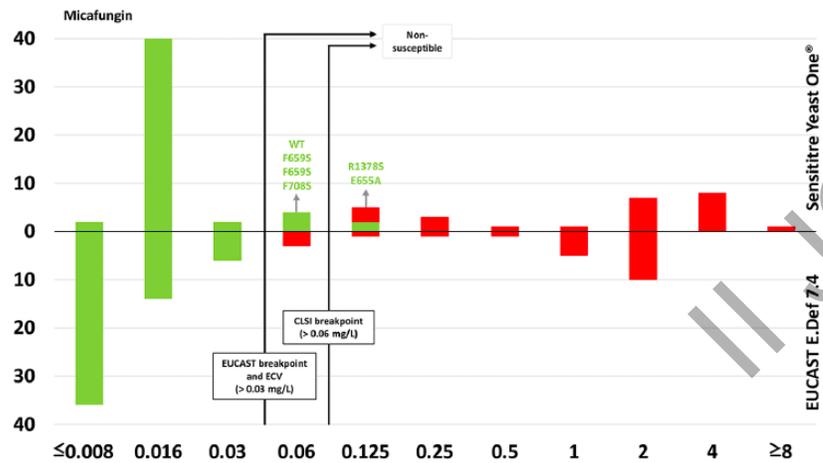
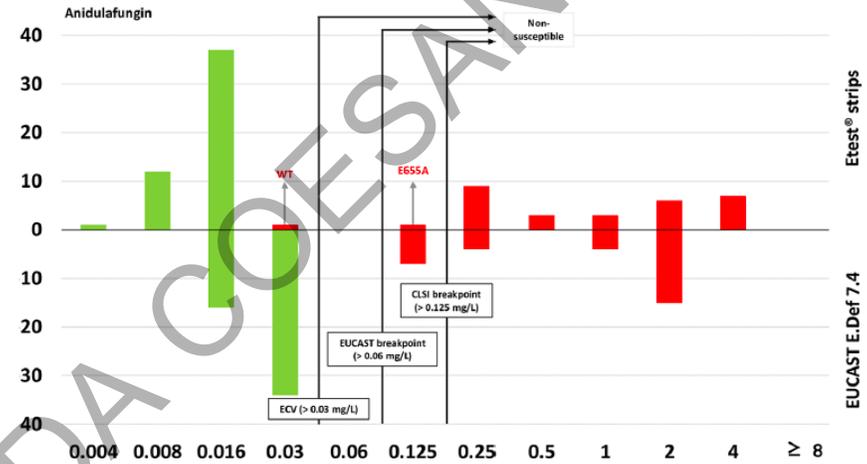
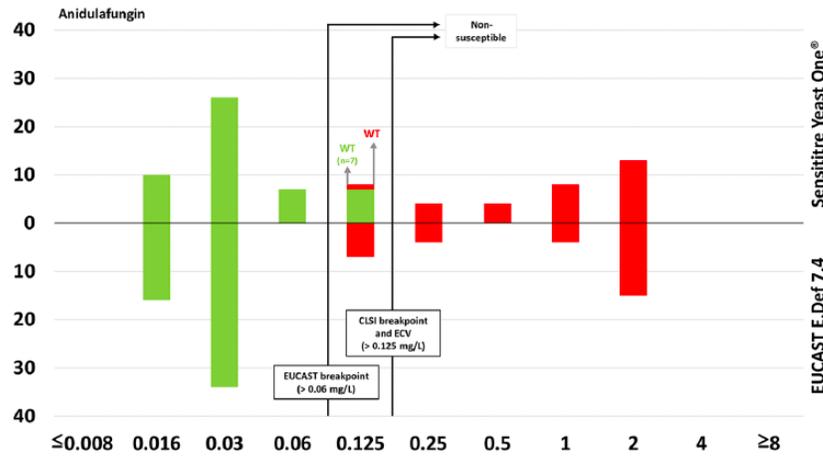
Resistant
 Intermediate
 Susceptible

- 15 hospitales EEUU
- 2.897 aislados
- Cándidas estudiadas usando SYO
- Breakpoints CLSI

C. glabrata
¡Cuidado!

Detecting Echinocandin Resistance in *C. glabrata* Using Commercial Methods: Are CLSI or EUCAST Breakpoints Suitable for Categorical Classification?

Pilar Escribano^{1,2,3} | Laura Alguacil Cuéllar^{1,2} | Almudena Álvarez-Gutiérrez^{1,2} | Patricia Muñoz^{1,2,4,5} | Jesús Guinea^{1,2,3,4}



Tiras plásticas difusión de gradiente sobre hemocultivos

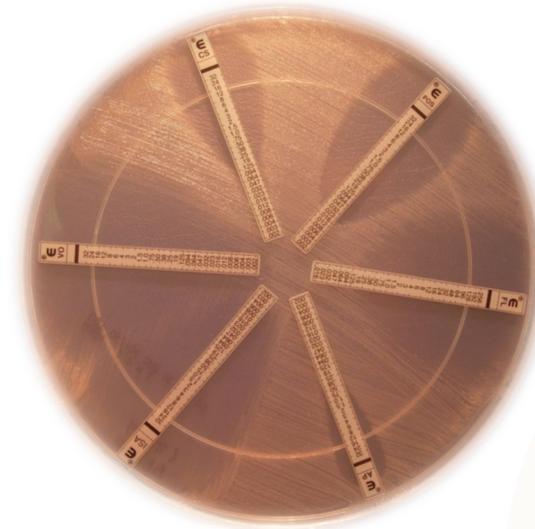
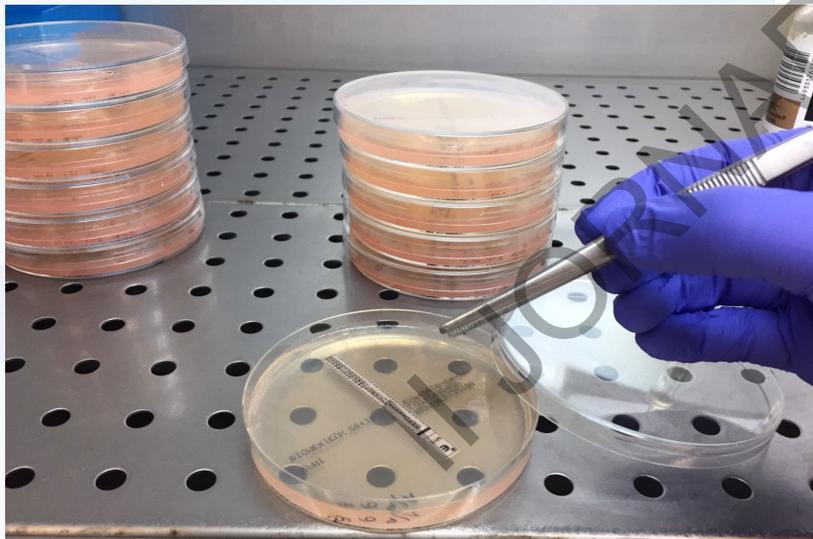
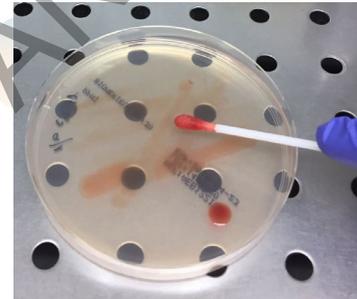
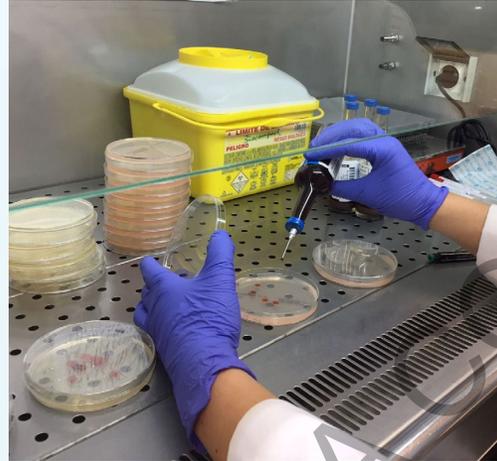


Imagen propia del autor

Rapid Antifungal Susceptibility Determination for Yeast Isolates by Use of Etest Performed Directly on Blood Samples from Patients with Fungemia[▽]

Jesús Guinea,^{1,2,3*} Sandra Recio,¹ Pilar Escribano,¹ Marta Torres-Narbona,¹ Teresa Peláez,^{1,2,3} Carlos Sánchez-Carrillo,^{1,2} Marta Rodríguez-Créixems,^{1,2,3} and Emilio Bouza^{1,2,3}

JCM 2010

The Etest Performed Directly on Blood Culture Bottles Is a Reliable Tool for Detection of Fluconazole-Resistant *Candida albicans* Isolates

Pilar Escribano,^{a,b} Laura Judith Marcos-Zambrano,^{a,b} Ana Gómez,^{a,b} Carlos Sánchez,^{a,b,c} M. Carmen Martínez-Jiménez,^{a,b} Emilio Bouza,^{a,b,c,d}  Jesús Guinea^{a,b,c,d}

AAC 2017

Resistance to Echinocandins in *Candida* Can Be Detected by Performing the Etest Directly on Blood Culture Samples

María Ángeles Bordallo-Cardona,^{a,b} Laura Judith Marcos-Zambrano,^{a,b} Carlos Sánchez-Carrillo,^{a,b} Emilio Bouza,^{a,b,c,d} Patricia Muñoz,^{a,b,c,d} Pilar Escribano,^{a,b}  Jesús Guinea^{a,b,c,d}

AAC 2018



AMERICAN SOCIETY FOR MICROBIOLOGY | Antimicrobial Agents and Chemotherapy[®]

SUSCEPTIBILITY



Detection of Echinocandin-Resistant *Candida glabrata* in Blood Cultures Spiked with Different Percentages of FKS2 Mutants

María Ángeles Bordallo-Cardona,^{a,b} Carlos Sánchez-Carrillo,^{a,b} Emilio Bouza,^{a,b,c,d} Patricia Muñoz,^{a,b,c,d} Pilar Escribano,^{a,b}  Jesús Guinea^{a,b,c,d}

AAC 2019

Aspergillus sección Fumigati

	Anfo B	Azoles	Resistencia
<i>A. fumigatus sensu stricto</i>	S	S o R	Secundaria
<i>N. pseudofisherii</i>	S o R	R	Intrínseca
<i>A. fumigatiaffinis</i>			
<i>A. viridinutans</i>			
<i>A. lentulus</i>	R	R	Intrínseca
<i>N. udagawae</i>			



Figure 1. (a) *A. fumigatus sensu stricto* and (b) *A. lentulus* isolates grown on potato dextrose agar plates.

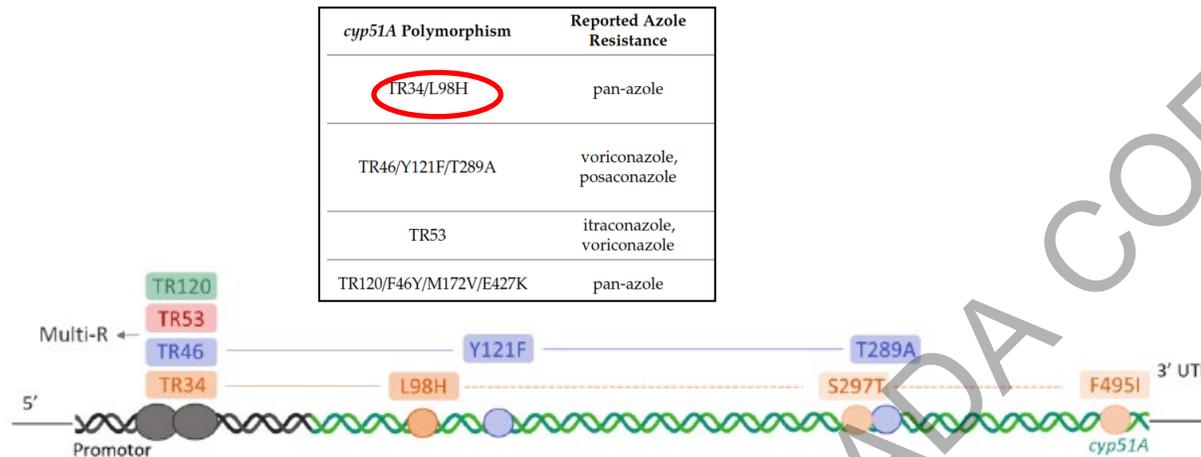
Ref: Van der Linden JWM et al. Med Mycol. 2011 Apr;49 Suppl 1:S82-9; Krishnan S et al. Mycoses 2009 May;52(3):206-22; Guinea J. J. Fungi 2020, 6, 343.

Anfo B: anfotericina B. S: sensible. R: resistente.

Resistencia a azoles en *Aspergillus fumigatus* ss

Diana: 14- α esteroles desmetilasa (gen *Cyp51A*)

Alteraciones en gen *cyp51A*: **mutaciones puntuales** o sobreexpresión génica



<i>cyp51A</i> Polymorphism	Reported Azole Resistance
TR34/L98H	pan-azole
TR46/Y121F/T289A	voriconazole, posaconazole
TR53	itraconazole, voriconazole
TR120/F46Y/M172V/E427K	pan-azole

<i>cyp51A</i> Polymorphism	Resistance
N22	itraconazole
G54	itraconazole, posaconazole
Y121	voriconazole
G138	pan-azole
Q141	pan-azole
H147	pan-azole
P216	itraconazole, posaconazole
F219	itraconazole, posaconazole
M220	itraconazole, posaconazole
M236	itraconazole

<i>cyp51A</i> Polymorphism	Resistance
P394	itraconazole
Y431	pan-azole
G432	itraconazole, voriconazole
G434	pan-azole
T440	itraconazole
G448	itraconazole
Y491	itraconazole

Ruta clínica

Inhalación esporas S

Tratamiento azoles

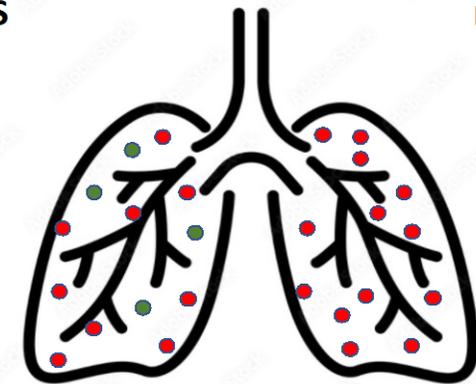
Desarrollo R

G54, P216, M220, G448

Ruta ambiental

Inhalación esporas R

TR34, TR46, TR53, TR120



FALLO TERAPÉUTICO

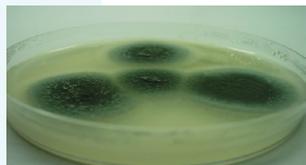
Dudakova et al. Clin Microbiol Rev. 2017 Oct;30(4):1065-1091

van der Torre M. J. Fungi. 2020, 10;6(1):12

González-Jiménez I. Tesis Doctoral. Origen, desarrollo y nuevos mecanismos de resistencia a azoles en *Aspergillus fumigatus*. 2022

Wiederhold NP and Verweij PE. Curr Opin Infect Dis. 2020 Aug;33(4):290-297

Aspergillus: detección resistencia en el laboratorio



Identificación correcta

A. flavus
A. terreus
A. niger
A. nidulans

EUCAST E.Def 10.2 June 2022

EUCAST agar screening for resistance in *Aspergillus* spp

EUCAST DEFINITIVE DOCUMENT E.Def 10.2

Screening method for the detection of azole and echinocandin resistance in *Aspergillus* using antifungal-containing agar plates, exemplified by *A. fumigatus*

J. Meletiadis^{1,2}, J Guinea^{3,4,5}, S. Arıkan-Akdagli⁶, N. Friberg⁷, G. Kahlmeter⁸, MC Arendrup^{9,10,11} and the Subcommittee on Antifungal Susceptibility Testing (AFST) of the ESCMID European Committee for Antimicrobial Susceptibility Testing (EUCAST)*

Agares con antifúngicos

A. fumigatus

EUCAST E.DEF 9.4 March 2022

EUCAST antifungal microdilution method for moulds

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Method for the determination of broth dilution minimum inhibitory concentrations of antifungal agents for conidia forming moulds

J Guinea^{*1,2,3}, J Meletiadis^{*4,5}, S Arıkan-Akdagli⁶, K Muehlethaler⁷, G Kahlmeter⁸, M C Arendrup^{9,10,11} and the Subcommittee on Antifungal Susceptibility Testing (AFST) of the ESCMID European Committee for Antimicrobial Susceptibility Testing (EUCAST)**

*Both authors contributed equally



Tiras plásticas gradiente difusión

Azole and Amphotericin B MIC Values against *Aspergillus fumigatus*: High Agreement between Spectrophotometric and Visual Readings Using the EUCAST EDef 9.3.2 Procedure



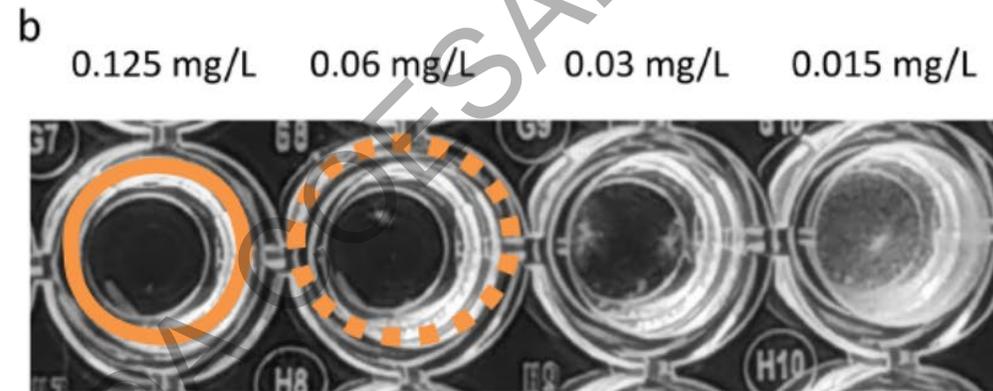
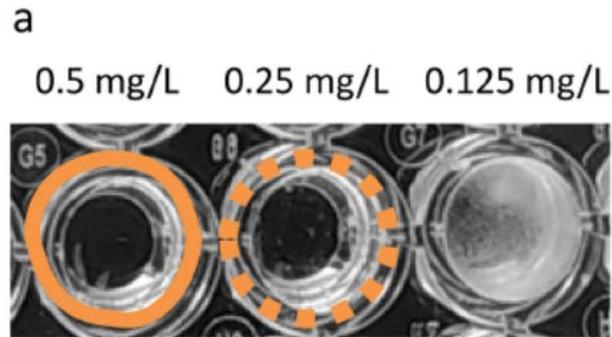
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Antimicrobial Agents
and Chemotherapy®

Julia Serrano-Lobo,^{a,b} Ana Gómez,^{a,b} Waldo Sánchez-Yebra,^c Miguel Fajardo,^d Belén Lorenzo,^e Ferrán Sánchez-Reus,^f Inmaculada Vidal,^g Marina Fernández-Torres,^h Isabel Sánchez-Romero,ⁱ Carlos Ruiz de Alegría-Puig,^j José Luis del Pozo,^k Patricia Muñoz,^{a,b,l,m} Pilar Escribano,^{a,b} Jesús Guinea,^{a,b,l} on behalf of the ASPEIN Study Group

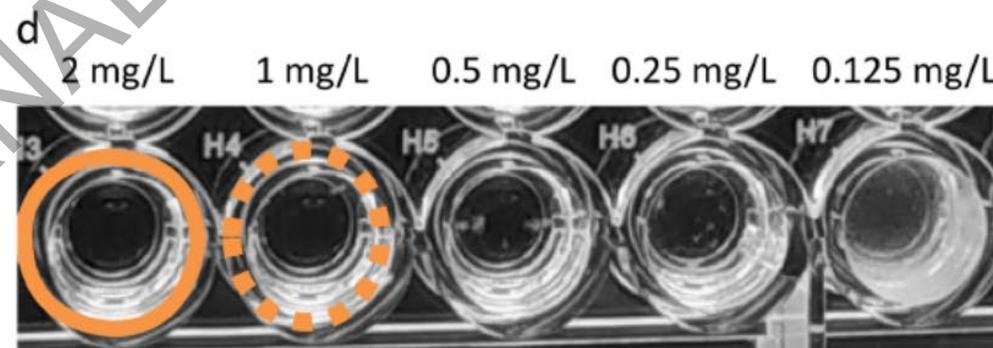
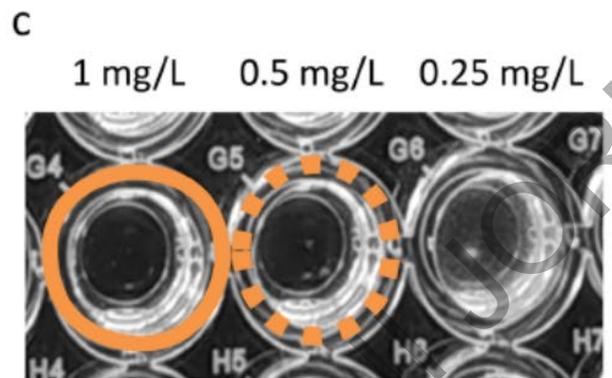


ITRA



POSA

VORI

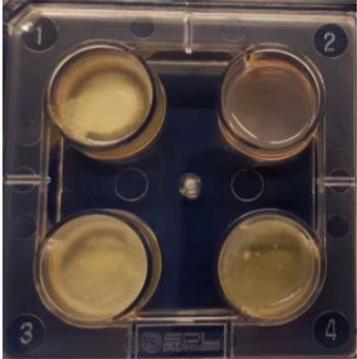
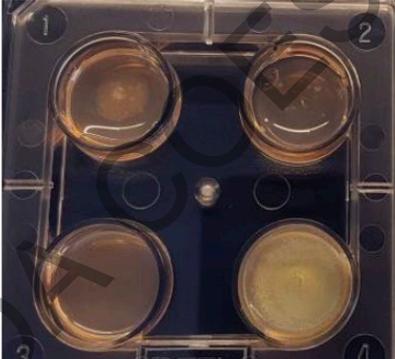
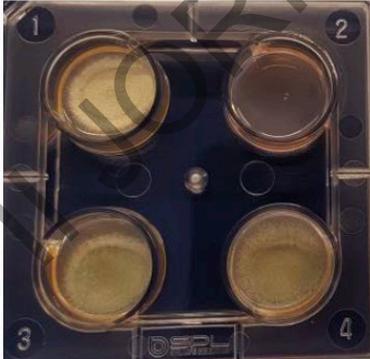
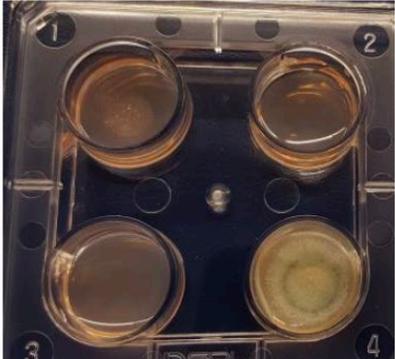


ISA

Itra: Itraconazole; Vori: voriconazole; Posa: posaconazole; Isa: isavuconazole.

Ref: Serrano-Lobo J *et al.* Antimicrobial Agents and Chemotherapy. 2021; January 1 e01693-20

Aspergillus fumigatus y agar con azoles

Inoculum	a) Azole-agar screening method	
Mutant isolates alone	<p data-bbox="924 382 1021 411">G54W</p> 	<p data-bbox="1332 382 1480 411">TR₃₄/L98H</p> 
Mutant isolates together with WT isolate (1:5)	<p data-bbox="886 889 1052 918">G54W+WT</p> 	<p data-bbox="1294 889 1523 918">TR₃₄/L98H+WT</p> 



Suspensiones de conidias en agua destilada suplementada con Tween 20 (0,1%)

~~Filtrado de las suspensiones de conidias (diámetro de poro: 11 μ m)~~

~~Ajuste a 0,5 McFarland~~

10 min.

1 min.



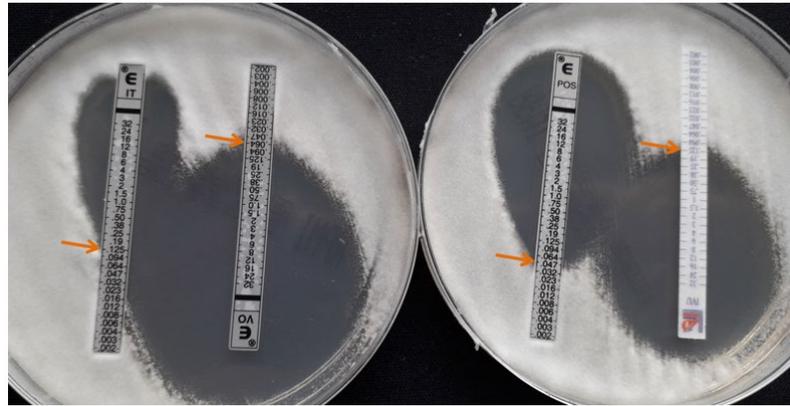
En placas de agar con azoles y tiras de difusión en gradiente:

Sensibilidad y especificidad: \geq 98%

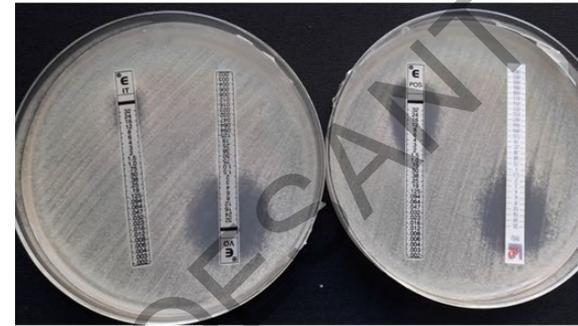
II JORNADA CONGRESO

Tiras de difusión en gradiente

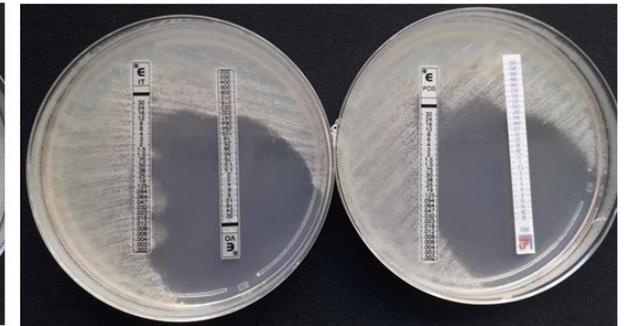
SENSIBLE



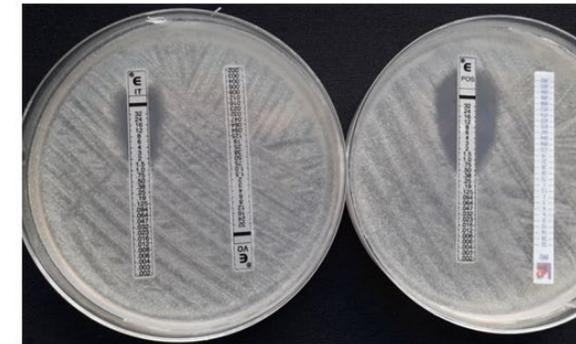
TR₃₄-L98H



G54R



TR₄₆-Y121F-T289A



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ORIGINAL ARTICLE

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Gradient diffusion strips for detecting azole resistance in *Aspergillus fumigatus* sensu lato

Julia Serrano-Lobo^{1,2} | Ana Gómez^{1,2} | Elena Reigadas^{1,2,3} |
Patricia Muñoz^{1,2,3,4} | Pilar Escribano^{1,2} | Jesús Guinea^{1,2,3} |
on behalf of the ASPEIN Study Group

Medical Mycology, 2025, 0, myaf011

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Original Article

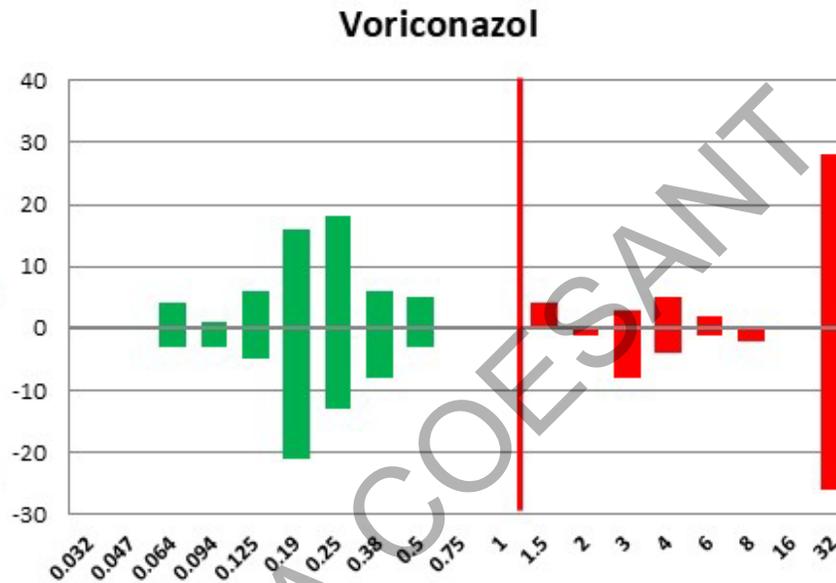
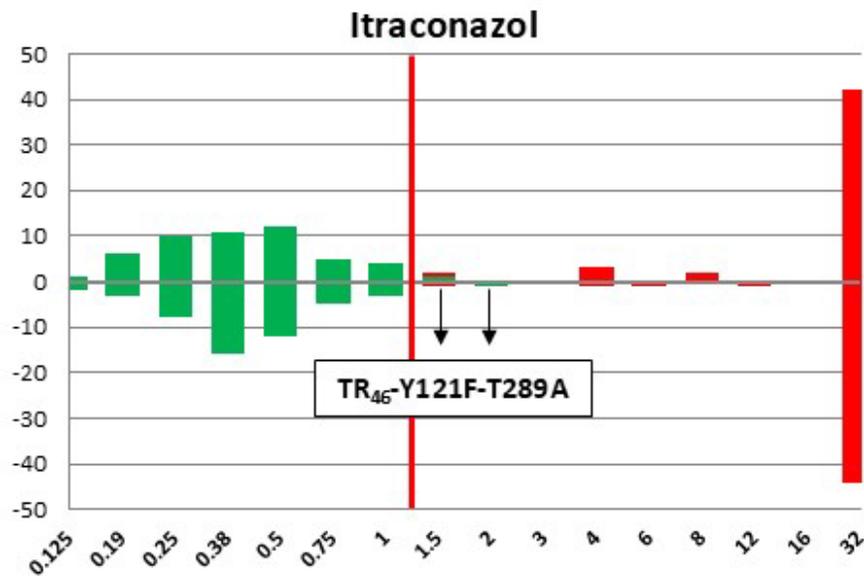
Advance access publication date: 5 February 2025

ISHAM
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Effective detection of azole resistance in *Aspergillus fumigatus sensu stricto* using a gradient diffusion plastic strip: A comparison of filtered-adjusted vs. unfiltered-unadjusted inocula

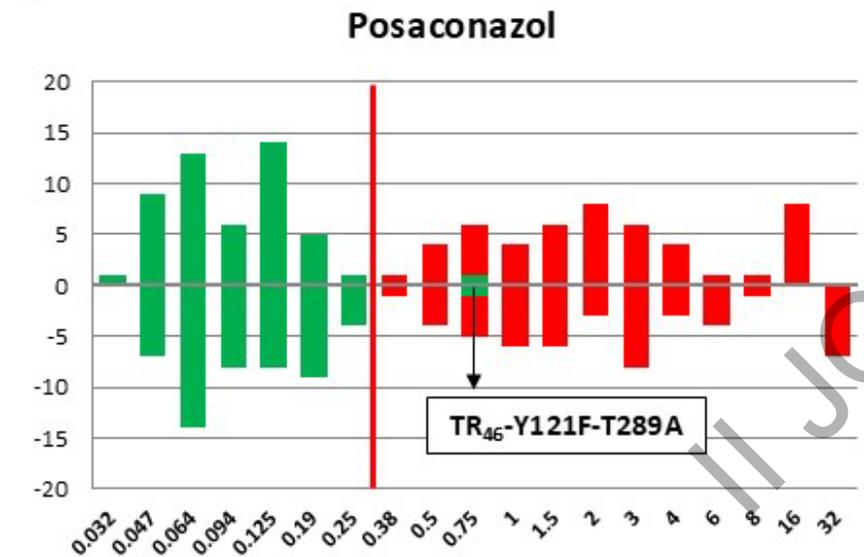
Julia Serrano-Lobo^{1,2} Elena Reigadas^{1,2,3} Patricia Muñoz^{1,2,3,4} Pilar Escribano^{1,2,5,*} and Jesús Guinea^{1,2,3,5,*} on behalf of the ASPEIN Study Group



Coinciden con puntos corte EUCAST v10

Puntos de corte propuestos:

- Itraconazol: >1 mg/L
- Voriconazol: >1 mg/L
- Posaconazol: >0,25 mg/L



■ Cepas sensibles según EUCAST E. Def. 9.4
 ■ Cepas resistentes según EUCAST E. Def. 9.4

Distribución de CMIs según el método de tiras de difusión en gradiente usando inóculos filtrados-ajustados (por encima del eje X) o sin filtrar ni ajustar (por debajo del eje X)

Patógeno	<i>C. glabrata</i> resistente a equinocandinas	<i>C. parapsilosis</i> resistente a fluconazol	<i>C. auris</i> multirresistente	<i>A. fumigatus</i> resistente a azoles
Mecanismo de resistencia dominante	Mutaciones genes <i>FKS2</i>	Mutaciones gen <i>ERG11</i> (sustitución Y132F)	Azoles: copias cromosomas 3 y 5, bombas de eflujo, mutaciones genes <i>ERG</i> Equinocandinas: Mutaciones genes <i>FKS1</i>	Mutaciones gen <i>Cyp51A</i>
Contexto de aparición del problema	Tratamiento con equinocandinas. Candidiasis intra-abdominal (intra-paciente)	Diseminación clonal (inter-paciente)		Uso pesticidas azólicos (medio ambiente)
Impacto uso previo antifúngicos	Alto	Bajo o muy bajo		
Acciones preventivas	Limitar uso equinocandinas	Mejorar control de infección nosocomial		Limitación uso pesticidas en medio ambiente

**EMERGENCIA DE HONGOS “RAROS”
CON ALTA RESISTENCIA INTRÍNSECA**

Para llevar a casa

- Realizar estudios de sensibilidad al menos en *Candida* y *Aspergillus* significativos
- Optar por antifúngicos para los que existen puntos de corte
- Obviar resistencia intrínseca vs Buscar resistencia adquirida
- Métodos de referencia son recomendables
- Sensititre para *Candida* (puntos de corte de CLSI)
- Tiras de gradiente para *Candida* y *Aspergillus* (puntos de corte “no oficiales”)

Facultad HM de Ciencias de la Salud
de la Universidad Camilo José Cela

CUHMED

 **Universidad
Camilo José Cela**
SEK EDUCATION GROUP

Micromódulo de formación permanente en aspectos práctico-clínicos para la detección de resistencia a antifúngicos

 **Campus Villafranca (Edificio L)**
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