

EUCAST-AFST

Available breakpoints 2012

9th NSMM meeting
Göteborg, Sweden
October 25th
2012

EUCAST-AFST documents

Reference Methods

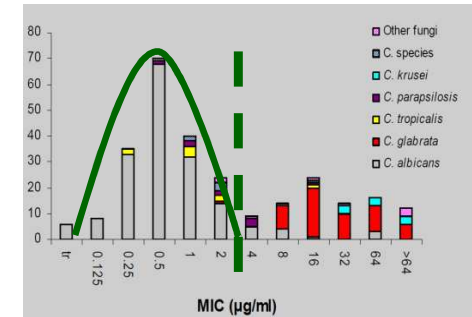
- Yeast
 - E.DEF 7.2 (2012)
 - TN- E.DEF 7.2 (CMI –epub July)
 - E.DEF 7.1 (2008)
 - TN- E.DEF 7.1 (2008)
- Conidia forming moulds
 - E.DEF 9.1 (2008)
 - TN-E.DEF 9.1 (2008)

Breakpoints

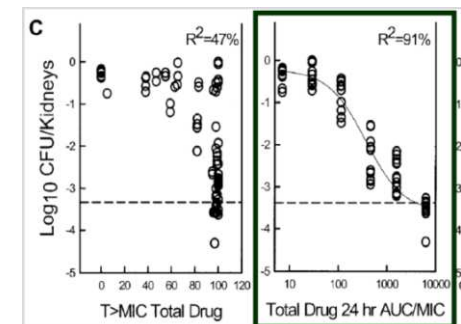
Compound	<i>Candida</i>		<i>Aspergillus</i>	
	Rationale Doc	Techn. Note CMI	Rationale Doc	Techn. Note CMI
Amphotericin	2010	2011	2012	epub July
Anidulafungin	2010	2011		
Fluconazole	2007	2008	-	-
Itraconazole			2012	epub July
Posaconazole	2010	2011	2012	epub July
Voriconazole	2008	2008	2012	In prep.

EUCAST BP establishing procedure

- MIC distributions
 - Per species
 - Several data sets
 - Epidemiological Cut Off Value (ECOFF)
- MIC-clinical outcome relationships
 - Per species
 - For wild type and non-wild type isolates
- PK/PD
 - defining the important parameter and ratio (AUC/MIC, Peak/MIC, Time/MIC)
 - are non wild type covered during standard dosing?
- BP never higher than ECOFF unless supported by data



MIC in mg/L	Candidaemia		OPC ≥ 100 mg/d		All
	No. cure/Total	% response	No. cure/Total	% response	
< 0.5	98/107	92	26/26	100	93
1	6/6	100	4/4	100	100
2	1/1	100	1/1	100	100
4	3/3	100	5/9	56	67
8	2/5	40	7/32	22	24
≥16	3/4	75	0/60	0	5



EUCAST *Candida* BPs

Breakpoints (BPs): S: $\leq X$ / R: $> Y$

Antifungal agent	MIC breakpoint (mg/L)						
	<i>C. albicans</i>	<i>C. glabrata</i>	<i>C. krusei</i>	<i>C. parapsilosis</i>	<i>C. tropicalis</i>	<i>C. guilliermondii</i>	Non-species related breakpoints
Ampho. B	1/1	1/1	1/1	1/1	1/1	IE	IE
Anidulafungin	0.03/0.03	0.06/0.06	0.06/0.06	-*	0.06/0.06	IE ²	IE
Fluconazole	2/4	IE*	-	2/4	2/4	IE	2/4
Posaconazole	0.06/0.06	IE ²	IE ²	0.06/0.06	0.06/0.06	IE ²	IE
Voriconazole	0.125/0.125 ⁴	IE	IE	0.125/0.125 ⁴	0.125/0.125 ⁴	IE ²	IE

² denotes the MICs for this species is generally higher than those for *C. albicans*

⁴ denotes that voriconazole should be reserved for situations where fluconazole is not appropriate

- denotes the organism is regarded a poor target for the antimicrobial agent

Current revision proposals

* For *C. glabrata* and fluconazole it is proposed to categorise ≤ 32 mg/L as “I” and >32 mg/L as “R”

* For *C. parapsilosis* and anidulafungin it is proposed to categorise ≤ 2 mg/L as “I” and >2 mg/L as “R”

Breakpoints under development:

Micafungin and *Candida*

CLSI versus EUCAST

Breakpoints (BPs): S: $\leq X$; R: $> Y$

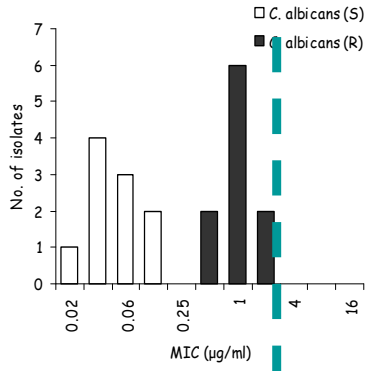
Revised BPs

	CLSI M27-S3	CLSI revised (M27-S4)		EUCAST
AMB	≤ 1	≤ 1		≤ 1 ; > 1
ANF	≤ 2	≤ 0.25 ; > 0.5	(alb, krus, trop)	≤ 0.032 ; > 0.032 (alb)
		≤ 0.125 ; > 0.25	(glab)	≤ 0.06 ; > 0.06 (glab, krus, trop)
		≤ 2 ; > 4	(para, guillier)	(para poor target, guillier IE)
CSF	≤ 2			-
MFG	≤ 2	≤ 0.25 ; > 0.5	(alb, krus, trop)	-
		≤ 0.06 ; > 0.125	(glab)	
		≤ 2 ; > 4	(para, guillier)	
Fluco	≤ 8 ; > 32	≤ 2 ; > 4	(alb, para, trop)	≤ 2 ; > 4 (alb, trop, para)
		SDD ≤ 32 ; > 32	(glab)	(glab IE)
			(krus poor target)	(krus poor target)
Vori	≤ 1 ; > 2	≤ 0.125 ; > 0.5	(alb, para, trop)	≤ 0.125 ; > 0.125 (alb, trop, para)
		≤ 0.5 ; > 1	(krus)	(glab/krus IE)
			(glab IE)	
Itra	≤ 0.125 ; > 0.5	≤ 0.125 ; > 0.5		-
Posa	-	-		≤ 0.06 ; > 0.06 (alb, trop, para)
				(glab/krus IE)

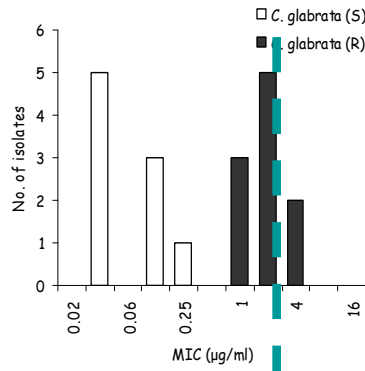
CLSI echinocandin MICs “M27-S3 BP”

AN I

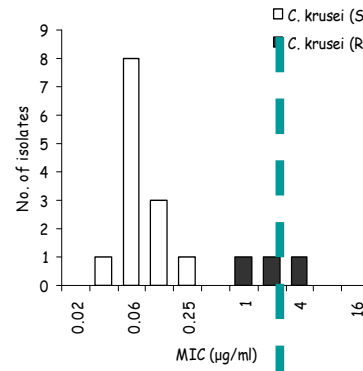
C. albicans



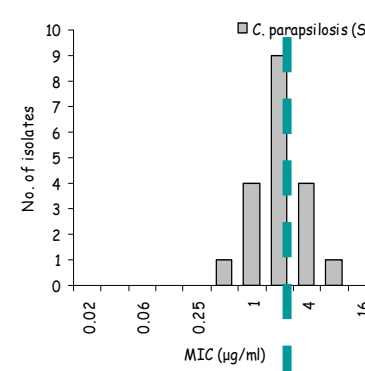
C. glabrata



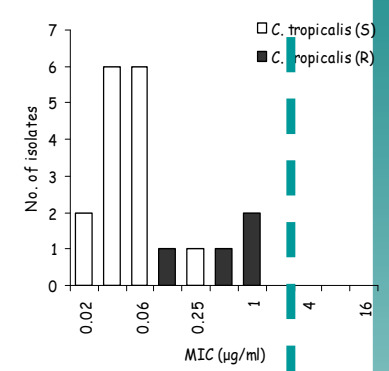
C. krusei



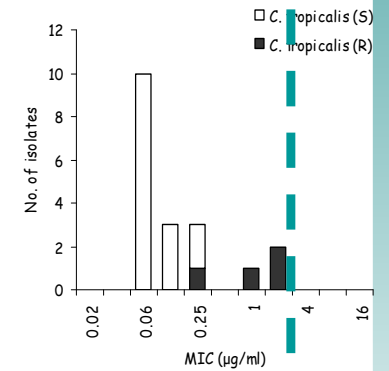
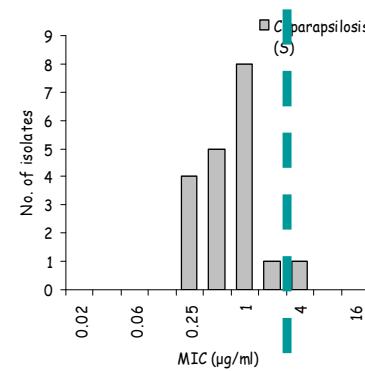
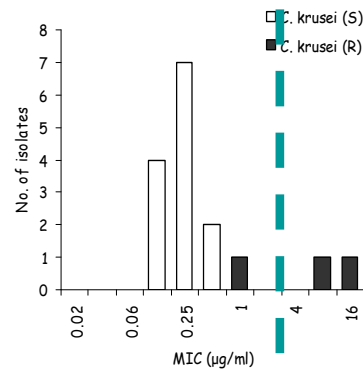
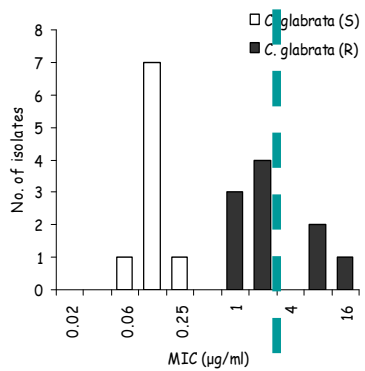
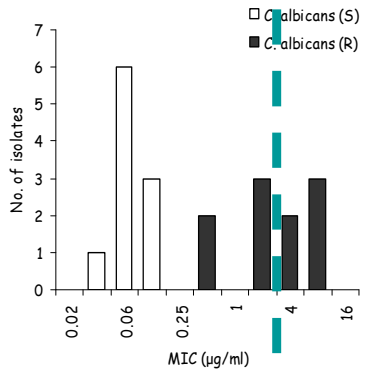
C. parapsilosis



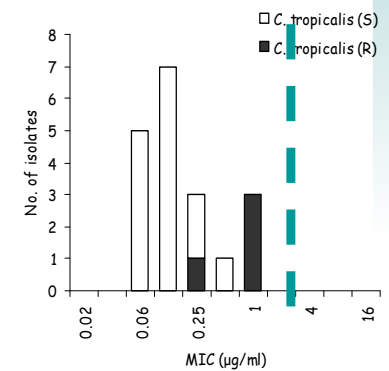
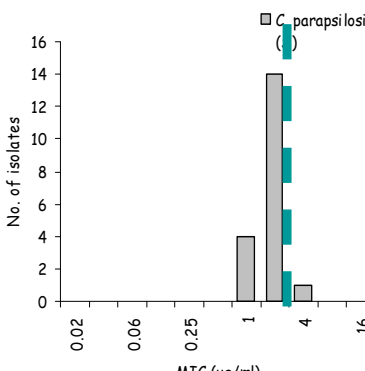
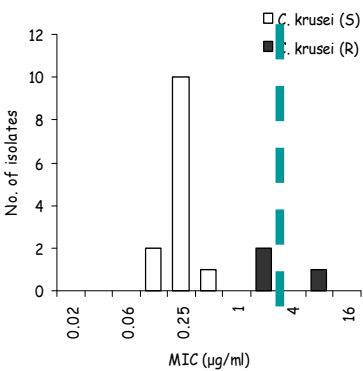
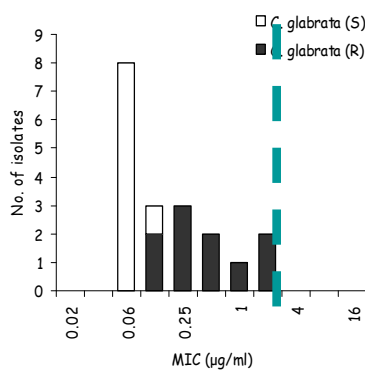
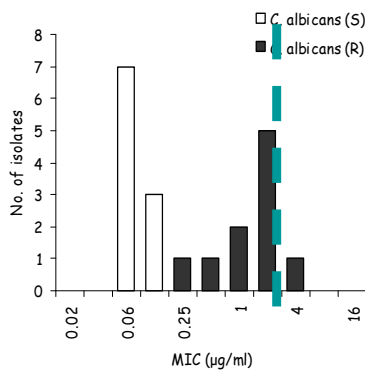
C. tropicalis



C A S



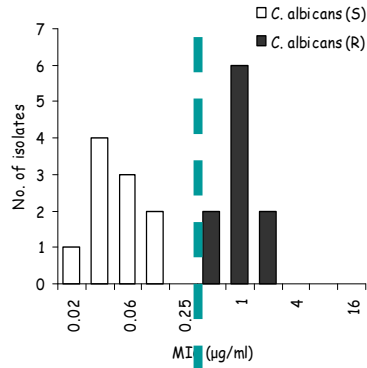
M I C A



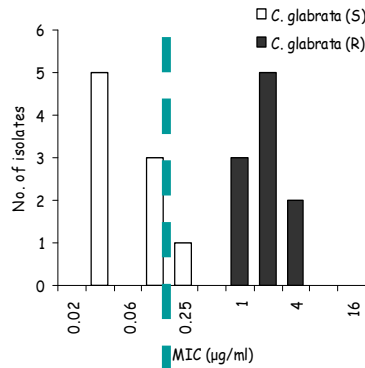
CLSI echinocandin testing – revised BP

AN I

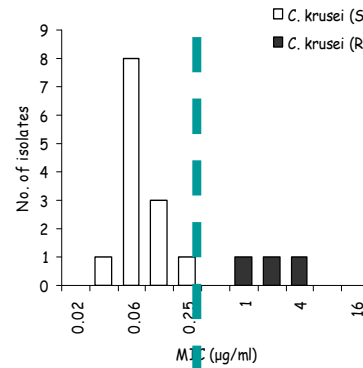
C. albicans



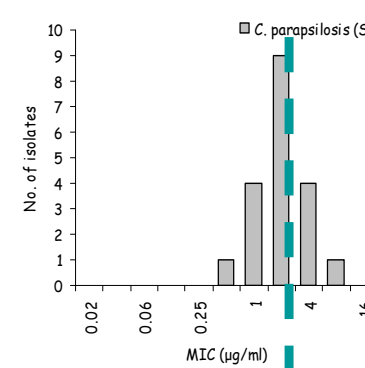
C. glabrata



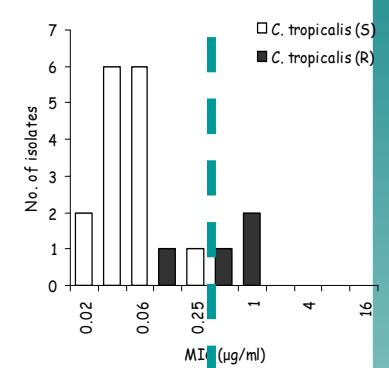
C. krusei



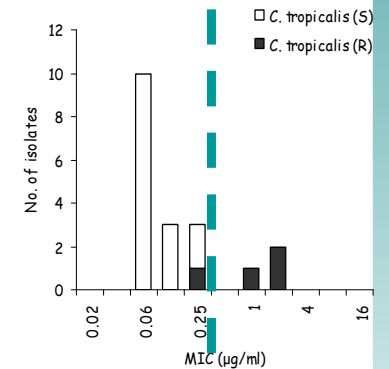
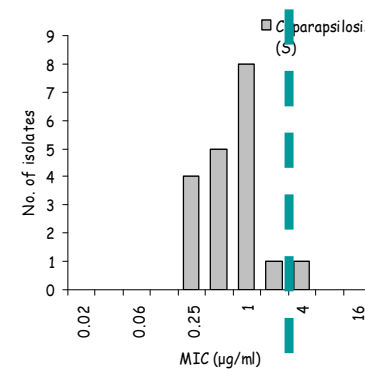
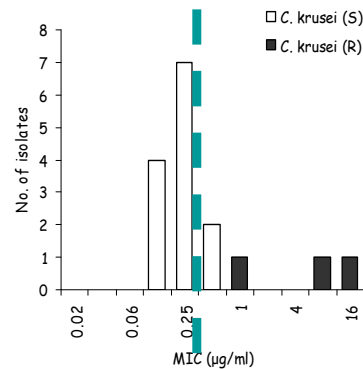
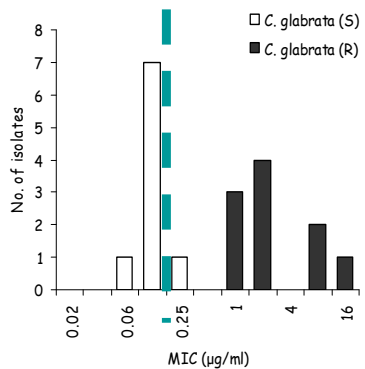
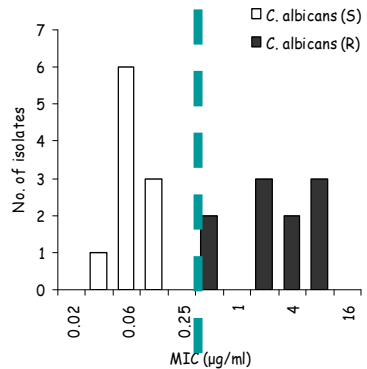
C. parapsilosis



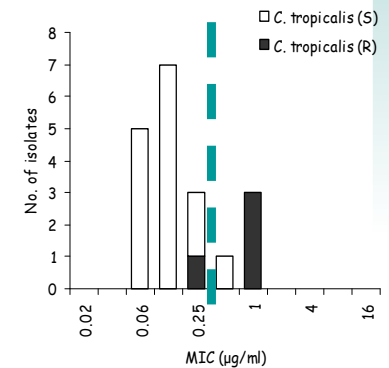
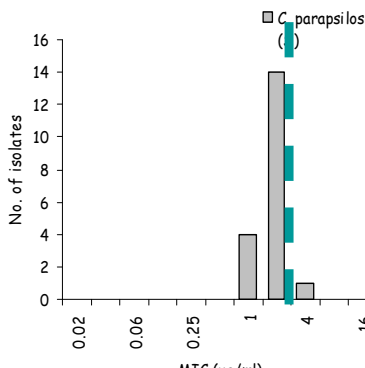
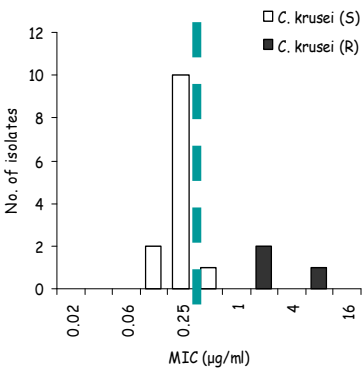
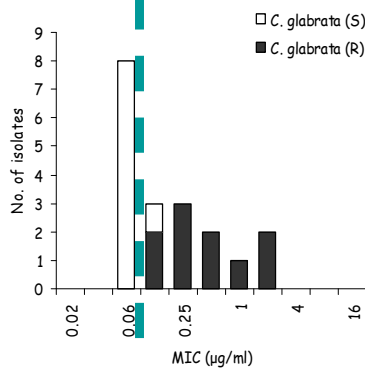
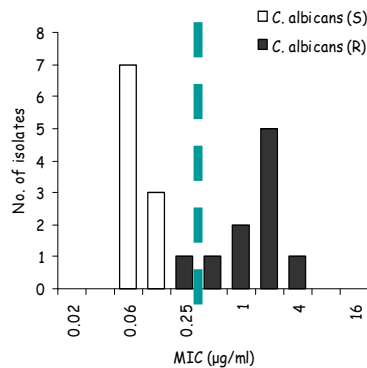
C. tropicalis



C A S



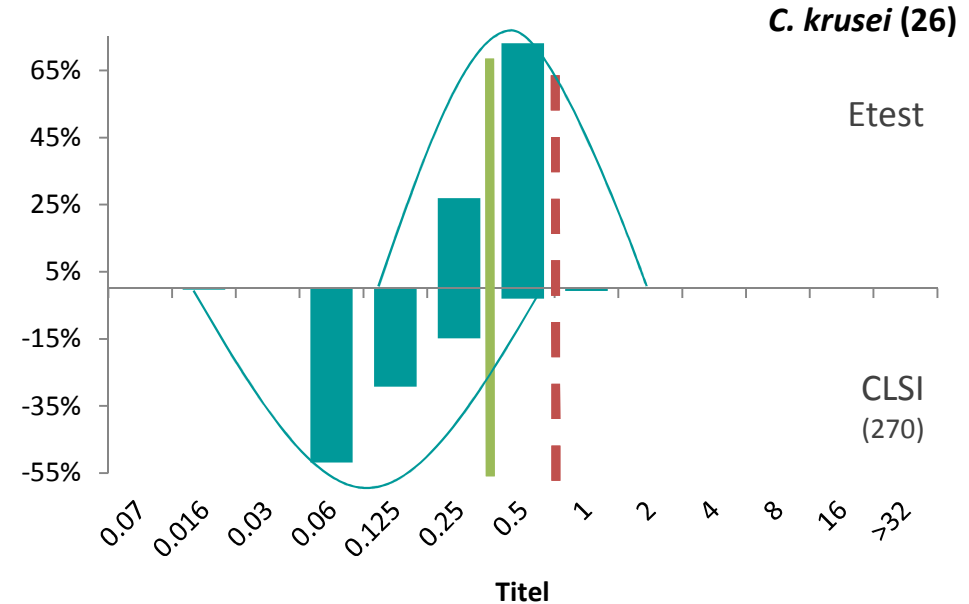
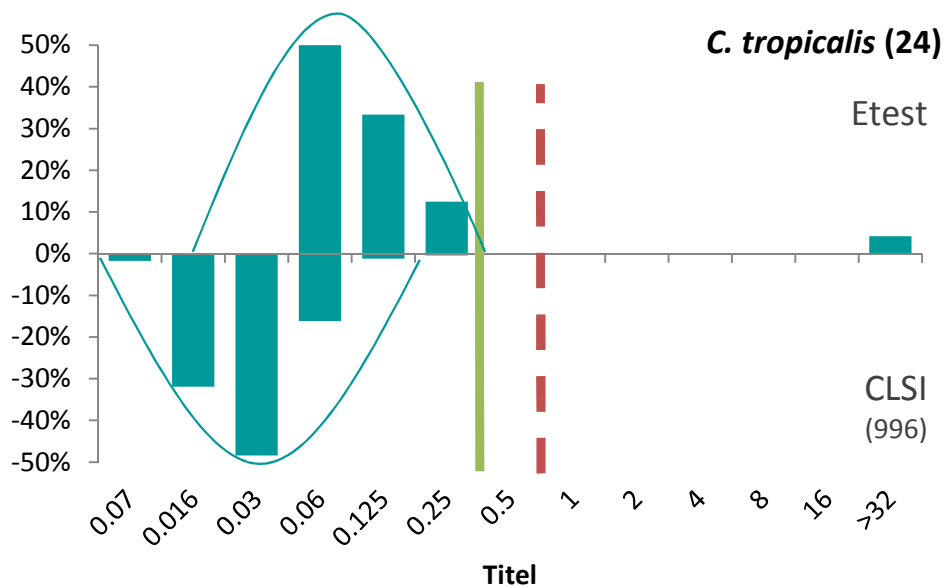
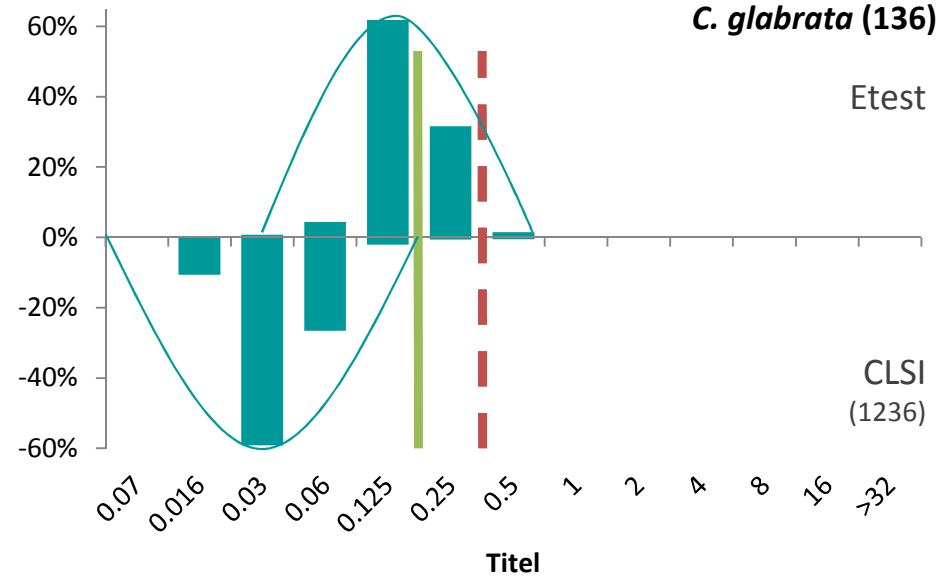
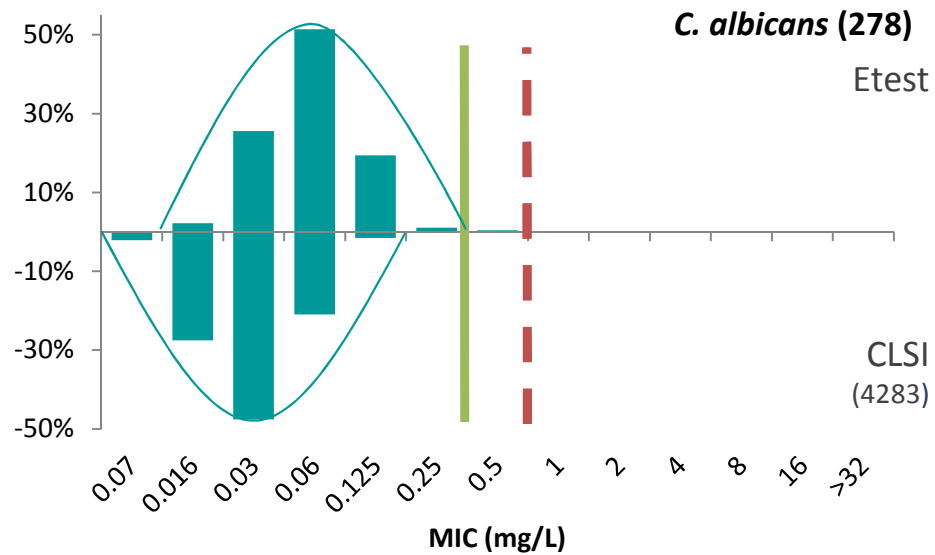
M I C A



EUCAST & CLSI Anidulafungin MICs

<i>Candida</i> sp	0.002	0.004	0.008	0.016	0.032	0.064	0.125	0.25	0.5	1	2	4	8	>=16	ECOFF	BP
<i>albicans</i> EUCAST	284	576	<u>314</u>	427*	703*	14	25	4	3	4	0	0	0	4	0.03	0.03
<i>albicans</i> CLSI			338	1278	<u>1542</u>	896	216	12		1					0.125	0.25
<i>glabrata</i> EUCAST	55	43	64	<u>177*</u>	441*	111	28	11	5	3	3	1	2	0	0.06	0.06
<i>glabrata</i> CLSI				7	161	<u>715</u>	320	26	2	2	2	1			0.25	0.125
<i>krusei</i> EUCAST	2	1	13	<u>26*</u>	83*	34	8	4	0	0	0	0	0	0	0.06	0.06
<i>krusei</i> CLSI				4	159	91	14	1	1						0.125	0.25
<i>parapsilosis</i> EUCAST	0	3	1	0	4	6	2	36	78	<u>171</u>	96	13	7	2	4	-
<i>parapsilosis</i> CLSI				1	2	1	1	14	49	319	765	86			4	2
<i>tropicalis</i> EUCAST	18	34	17	<u>47*</u>	175*	24	7	6	3	1	0	0	0	2	0.06	0.06
<i>tropicalis</i> CLSI			41	254	493	173	24	7	1		3				0.125	0.25

Etest: Caspofungin and CLSI BP



EUCAST *Aspergillus* BPs 2012

BPs indicated as S ≤x / R >y

AF compound	<i>Aspergillus</i>				
	<i>flavus</i>	<i>fumigatus</i>	<i>nidulans</i>	<i>niger</i>	<i>terreus</i>
Amphotericin	IE*	1/2	Note	1/2	Poor Target
Itraconazole	1/2	1/2	1/2	IE*	1/2
Posaconazole	IE*	0.125/0.25**	IE*	IE*	Note
Voriconazole	Note	1/2	Note	Note	Note

* MICs are higher than for *A. fumigatus*

** provided sufficient levels can be achieved

Note: the MICs are similar to *A. fumigatus* but insufficient clinical data for BP setting

www.eucast.org

- Website update: the AFST tab



The screenshot shows the EUCAST website interface. The top navigation bar includes the EUCAST logo and name, and links for Home, Contact, and Sitemap. A left-hand navigation menu lists various categories, with 'Antimicrobial susceptibility testing' circled in red. The main content area features a header for 'The European Committee on Antimicrobial Susceptibility Testing – EUCAST' and a search bar. Below the header, the 'Antifungal susceptibility testing (AFST)' section is displayed, including a description of methods for testing Candida and Aspergillus, and a list of resources such as clinical breakpoints, methods of testing, MIC distributions, rationale documents, and publications. A 'Last update: 16 February 2012' notice and a 'Recommend page' button are also visible.

Organization

EUCAST News

Clinical breakpoints

Expert rules

Setting breakpoints

MIC distributions

Zone diameter distributions

Antimicrobial susceptibility testing

Antifungal susceptibility testing (AFST)

Methods of antifungal susceptibility

Rationale documents for antifungals

Documents for discussion in AFST

Publications in journals

Frequently Asked Questions (FAQ)

Meetings

EUCAST Presentations

Documents

Home Contact Sitemap

The European Committee on
Antimicrobial Susceptibility Testing – EUCAST

search term Search

Antifungal susceptibility testing (AFST)

Antifungal susceptibility testing (AFST)

Methods for susceptibility testing of *Candida* and *Aspergillus* are developed and validated by the EUCAST subcommittee on AFST.

Information on subcommittee organisation and members are available on the webpage describing the [Organisation](#) of EUCAST.

- ➔ Clinical breakpoints
- ➔ Methods of antifungal susceptibility testing
- ➔ MIC distributions for antifungal agents
- ➔ Rationale documents
- ➔ Documents for discussion
- ➔ Publications in journals
- ➔ Information for industry

Last update: 16 February 2012

 Recommend page

May thanks for your attention

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MC Arendrup, Chair (Denmark)

W Hope, Secretary (UK)

C Lass-Flörl (Austria)

M Cuenca-Estrella (Spain)



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O Lortholary (France)

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C Moore (UK)

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