



Article – Supplementary materials

The Antimicrobial Activity of Omiganan Alone and In Combination against *Candida* Isolated from Vulvovaginal Candidiasis and Bloodstream Infections

Dawid Żyrej ¹, Andrzej Wajda ¹, Paulina Czechowicz ^{1,*}, Joanna Nowicka ^{1,*}, Maciej Jaśkiewicz ², Damian Neubauer ² and Wojciech Kamysz ²

¹ Department of Microbiology, Faculty of Medicine, Wrocław Medical University; 50-367 Wrocław, Poland; dawid.zyrek96@gmail.com (D.Ż.); andrzej.wajda96@gmail.com (A.W.)

² Department of Inorganic Chemistry, Faculty of Pharmacy, Medical University of Gdańsk, 80-416 Gdańsk, Poland; mj@gumed.edu.pl (M.J.); damian.neubauer@gumed.edu.pl (D.N.); wojciech.kamysz@gumed.edu.pl (W.K.)

* Correspondence: paulina.czechowicz.umedwroc@gmail.com (P.C.); joanna.nowicka@umed.wroc.pl (J.N.)

Table S1. The checkerboard method. Blue color indicates fluconazole concentrations, and green color indicates Omiganan concentrations, in both cases within the range of 0.5–64 µg/mL. K+ is the positive control (microorganism growth control), and K- is the medium sterility control (negative control).

No of row	1	2	3	4	5	6	7	8	9	10	11	12
A	64	32	16	8	4	2	1	0.5	K+	K-		
	64	64	64	64	64	64	64	64				
B	64	32	16	8	4	2	1	0.5	K+	K-		
	32	32	32	32	32	32	32	32				
C	64	32	16	8	4	2	1	0.5	K+	K-		
	16	16	16	16	16	16	16	16				
D	64	32	16	8	4	2	1	0.5	K+	K-		
	8	8	8	8	8	8	8	8				
E	64	32	16	8	4	2	1	0.5	K+	K-		
	4	4	4	4	4	4	4	4				
F	64	32	16	8	4	2	1	0.5	K+	K-		
	2	2	2	2	2	2	2	2				
G	64	32	16	8	4	2	1	0.5	K+	K-		
	1	1	1	1	1	1	1	1				
H	64	32	16	8	4	2	1	0.5	K+	K-		
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5				

Table S2. MIC and MBEC values [µg/mL] of fluconazole and Omiganan against reference *Candida* strains.

Strain	Fluconazole		Omiganan	
	MIC	MBEC	MIC	MBEC
<i>C. albicans</i> ATCC 90028	0.125	1024	256	256
<i>C. glabrata</i> ATCC 15126	4	1024	128	256

Table S3. Distribution of MIC and MBEC values [$\mu\text{g/mL}$] of fluconazole and Omiganan among vaginal (VVC) *Candida* strains.

No	Strain	Fluconazole		Omiganan	
		MIC	MBEC	MIC	MBEC
V1	<i>C. albicans</i>	0.125	512	128	128
V2	<i>C. albicans</i>	0.125	512	256	256
V3	<i>C. albicans</i>	0.125	1024	256	256
V4	<i>C. albicans</i>	0.125	1024	256	256
V5	<i>C. lusitaniae</i>	0.25	1024	64	256
V6	<i>C. kefyr</i>	1	512	64	256
V7	<i>C. albicans</i>	0.125	1024	256	256
V8	<i>C. albicans</i>	0.125	1024	128	256
V9	<i>C. albicans</i>	0.125	1024	128	256
V10	<i>C. albicans</i>	0.125	1024	128	256
V11	<i>C. albicans</i>	0.125	1024	128	256
V12	<i>C. albicans</i>	0.125	1024	256	256
V13	<i>C. albicans</i>	0.125	512	128	256
V14	<i>C. albicans</i>	0.125	1024	128	256
V15	<i>C. albicans</i>	0.25	512	128	256
V16	<i>C. albicans</i>	0.125	1024	128	256
V17	<i>C. albicans</i>	0.125	512	128	256
V18	<i>C. albicans</i>	0.125	1024	256	256
V19	<i>C. albicans</i>	0.125	512	256	256
V20	<i>C. albicans</i>	0.125	512	128	256
V21	<i>C. albicans</i>	0.125	512	256	256
V22	<i>C. albicans</i>	0.125	512	256	256
V23	<i>C. albicans</i>	0.125	512	256	256
V24	<i>C. albicans</i>	0.125	512	128	256
V25	<i>C. albicans</i>	0.125	512	128	256
V26	<i>C. albicans</i>	0.125	512	128	256
V27	<i>C. albicans</i>	0.125	1024	128	256
V28	<i>C. albicans</i>	0.125	1024	256	256
V29	<i>C. albicans</i>	0.125	512	128	256
V30	<i>C. albicans</i>	0.25	512	128	256
V31	<i>C. albicans</i>	0.125	512	128	256
V32	<i>C. albicans</i>	0.25	1024	128	256

Table S4. Distribution of MIC and MBEC values [$\mu\text{g/mL}$] of fluconazole and Omiganan among vaginal (VVC) and blood-derived (BSI) *Candida* strains.

No	Strain	Fluconazole		Omiganan	
		MIC	MBEC	MIC	MBEC
B1	<i>C. kefyr</i>	4	512	256	256
B2	<i>C. parapsilosis</i>	0.5	1024	256	256
B3	<i>C. glabrata</i>	0.125	512	128	256
B4	<i>C. parapsilosis</i>	16	512	256	256
B5	<i>C. parapsilosis</i>	0.5	512	64	256
B6	<i>C. glabrata</i>	4	512	256	256
B7	<i>C. albicans</i>	0.125	512	256	256
B8	<i>C. glabrata</i>	4	512	256	256
B9	<i>C. tropicalis</i>	0.25	1024	32	256
B10	<i>C. tropicalis</i>	0.25	512	128	256
B11	<i>C. parapsilosis</i>	0.25	1024	256	256

B12	<i>C. krusei</i>	32	1024	128	256
B13	<i>C. albicans</i>	16	1024	128	256
B14	<i>C. glabrata</i>	8	512	256	256
B15	<i>C. albicans</i>	0.25	1024	128	256
B16	<i>C. glabrata</i>	0.5	512	128	256
B17	<i>C. glabrata</i>	0.5	1024	256	256
B18	<i>C. glabrata</i>	64	512	256	256
B19	<i>C. albicans</i>	0.25	1024	256	256
B20	<i>C. krusei</i>	32	512	128	256
B21	<i>C. glabrata</i>	0.25	512	256	256
B22	<i>C. albicans</i>	0.125	512	128	256
B23	<i>C. albicans</i>	0.125	1024	128	256
B24	<i>C. krusei</i>	16	1024	128	256
B25	<i>C. albicans</i>	0.125	1024	256	256
B26	<i>C. albicans</i>	0.125	1024	256	256
B27	<i>C. glabrata</i>	0.25	1024	256	256
B28	<i>C. glabrata</i>	4	512	256	256
B29	<i>C. kefyr</i>	0.125	512	128	256
B30	<i>C. glabrata</i>	1	512	256	256

Table S5. Correlation between the lowest obtained FIC values and corresponding concentration [µg/mL] of Omiganan, compared to MIC [µg/mL] of Omiganan against 24 random selected *Candida* isolates.

No	isolation	Strain	The lowest FIC	Interpretation of FIC*	Concentration of Omiganan Corresponding to FIC	MIC of Omiganan
-	<i>C. albicans</i> ATCC 90028		0.266	S	64	256
-	<i>C. glabrata</i> ATCC 15126		0.266	S	32	128
B9	BSI	<i>C. tropicalis</i>	0.515	A	16	32
B5	BSI	<i>C. parapsilosis</i>	0.531	A	32	64
B3	BSI	<i>C. glabrata</i>	0.515	A	64	128
B17	BSI	<i>C. glabrata</i>	0.5	S	32	128
B23	BSI	<i>C. albicans</i>	0.515	A	64	128
B24	BSI	<i>C. albicans</i>	0.563	A	64	128
B7	BSI	<i>C. albicans</i>	0.266	S	64	256
B22	BSI	<i>C. glabrata</i>	0.141	S	32	256
B27	BSI	<i>C. albicans</i>	0.266	S	64	256
B28	BSI	<i>C. albicans</i>	0.515	A	128	256
B13	BSI	<i>C. albicans</i>	0.141	S	16	128
B14	BSI	<i>C. glabrata</i>	0.5	S	64	256
V5	VVC	<i>C. lusitaniae</i>	0.281	S	16	64
V6	VVC	<i>C. kefyr</i>	0.625	A	32	64
V8	VVC	<i>C. albicans</i>	1.016	I	128	128
V13	VVC	<i>C. albicans</i>	0.515	A	64	128
V14	VVC	<i>C. albicans</i>	0.563	A	64	128
V16	VVC	<i>C. albicans</i>	0.515	A	64	128
V2	VVC	<i>C. albicans</i>	0.266	S	64	256
V3	VVC	<i>C. albicans</i>	0.266	S	64	256
V4	VVC	<i>C. albicans</i>	0.266	S	64	256
V7	VVC	<i>C. albicans</i>	0.266	S	64	256

*S-synergy; A-Additive, I- Indifferent.