

Antibiofilm activity of (1)-N-2-methoxybenzyl-1, 10-phenanthroline bromide against *Candida albicans*

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Abstract	<p>The therapy for invasive candidiasis related to biofilms infection remains a difficult medical problem. To overcome this problem, efforts have been made to search for novel antibiofilm agents from various sources. This study investigated the in vitro antibiofilm activity of (1)-N-2-methoxybenzyl-1,10-phenanthroline bromide (FEN) against <i>Candida albicans</i>. The minimum biofilm inhibitory concentration (MBIC) and minimum biofilm reduction concentration (MBRC) were determined using the MTT (3-(4-5-dimethylthiazol-2-yl)2,5-diphenyl tetrazolium bromide) reduction assay. Biofilms on surfaces were visualized using scanning electron microscopy (SEM). This new compound inhibited the growth of <i>C. albicans</i> biofilms by 80 % with an MBIC80 range from 0.5-2.0 μg/mL. The ability of FEN to reduce 50 % of a preformed biofilm was demonstrated by defining a MBRC50 range from 6.25--12.5 μg/mL. To reduce 80 % of a preformed biofilm required higher concentrations > 200 μg/mL. In addition, SEM images showed disruption of <i>C. albicans</i> biofilms matrix exposed to FEN. These results indicated that (1)-N-2-methoxybenzyl-1,10-phenanthroline bromide has the potential to be developed as a new antibiofilm agent against <i>C. albicans</i>. (C) 2018 Elsevier Masson SAS. All rights reserved.</p>
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