

Antifungal activity of organotin compounds with functionalized carboxylates evaluated by the microdilution bioassay *in vitro*.

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We investigated the susceptibility of 96 well-characterized strains of yeast-like and filamentous fungi towards new organotin compounds: (1) $[\text{Sn}(\text{C}_4\text{H}_9)_3(\text{OOC}\text{C}_6\text{H}_4\text{SO}_3\text{H}-2)]$, (2) $\text{Sn}(\text{C}_4\text{H}_9)_3\{\text{OOC}(\text{CH}_2)_3\text{P}(\text{C}_6\text{H}_5)_3\}\text{Br}$, and (3) $[\text{Sn}(\text{C}_6\text{H}_5)_3\{\text{OOC}(\text{CH}_2)_3\text{N}(\text{CH}_3)_3\}]\text{Cl}$. In the case of yeast-like fungi, the *in vitro* susceptibility tests were carried out according to the Clinical Laboratory Standards Institute (CLSI, formerly NCCLS) reference method M27-A2, while for filamentous fungi the investigations were conducted according to the M38-A and M38-P methods. The organotin complexes 1, 2 and 3 are active antifungal agents. Minimal inhibitory concentrations (MIC) were in the range of 0.25-4.68 microg/ml for all tested fungal strains. Considerably larger differences were found for minimal fungicidal concentrations (MFC). In the case of yeast-like fungi, the fungicidal effect was generally observed at organotin compounds concentrations of 2.34-9.37 microg/ml. The MFC values for filamentous fungi were considerably higher and were in the range of 18.74-50 microg/ml. In conclusion, organotin compounds 1, 2 and 3 showed high fungistatic and fungicidal activities against different species of pathogenic and nonpathogenic fungi. However, they were also highly cytotoxic towards two mammalian cell lines.

Adres publiczny

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