

Fungicidal Activity of Allyl Alcohol by Disrupting Ergosterol Biosynthesis and Membrane Integrity against *Candida Albicans*

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This work is an attempt to examine antifungal effect of allyl alcohol against both fluconazole susceptible and resistant isolates of *Candida albicans*. Total sterol content and H⁺ ATPase activity in *Candida* cells on exposure to different concentration of allyl alcohol was determined by sterol quantification assay and medium acidification assay respectively. Allyl alcohol was found to be inhibitory to both ergosterol biosynthesis and H⁺ - ATPase activity to varying extent against all isolates, including resistant isolates. The mean decrease in total cellular ergosterol content in susceptible standard and resistant isolates grown with MIC concentration of allyl alcohol, were 97% and 94% respectively. Although PM - ATPase of both *Candida* susceptible and resistant

isolates were sensitive to allyl alcohol at their MIC concentrations. There appeared to be variation between different isolates. Fluconazole susceptible standard and clinical isolates shows more sensitivity while as resistant isolates shows moderate sensitivity. Allyl alcohol at MIC concentration reduced H⁺ - ATPase activity by 45%, 39% and 27% respectively in standard isolate, clinical isolate and resistant isolate. To conclude, allyl alcohol significantly inhibits candidal growth by disrupting ergosterol biosynthesis and H⁺ - ATPase activity in both fluconazole susceptible and resistant isolates of *Candida albicans*. This compound can therefore be explored for use as antifungal against *Candida*.