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[\[PDF \(331K\)\]](#) [\[References\]](#)**Antifungal Effect of Acrylic Resin Containing Apatite-coated TiO₂ Photocatalyst**

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Abstract:

The purpose of this study was to develop an acrylic resin with antifungal properties by leveraging the photocatalytic activity of apatite-coated titanium dioxide (Ap-TiO₂).

Candida albicans was used for antifungal activity assay of the specimen plates under ultraviolet A (UVA) with a black light source. Statistically significant decreases in cell viability in acrylic resins containing 5 wt% and 10 wt% Ap-TiO₂ were observed after irradiation for two, four, and six hours (P<0.01), when compared to the control. As for the flexural strength and modulus values of acrylic resins mixed with Ap-TiO₂ and TiO₂ particles, they varied before and after irradiation. Among the tested specimens, a 5 wt% content of Ap-TiO₂ in acrylic resin exceeded the requirements of ISO 1567. It was thus suggested that acrylic resin containing 5 wt% Ap-TiO₂ could exert antifungal effects on *C. albicans*, while at the same time maintain adequate mechanical properties for clinical use.

Key words:



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