

عنوان مقاله:

Microwave synthesis of $\text{AlO}(\text{OH})$ and $\text{Mg}(\text{OH})_2$ nanoparticles and evaluation of their antifungal activity

محل انتشار:

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خلاصه مقاله:

Microwave heating has been adopted as green approach for the synthesis of bohmite ($\text{AlO}(\text{OH})$) and brucite ($\text{Mg}(\text{OH})_2$) nanoparticles (NPs) for antifungal activity. The synthesis of $\text{AlO}(\text{OH})$ and $\text{Mg}(\text{OH})_2$ NPs were carried out at 150°C and the resulting NPs have an average diameter of $10-20$ nm. The $\text{Mg}(\text{OH})_2$ and $\text{AlO}(\text{OH})$ have trigonal and orthorhombic crystal structure, respectively. The antifungal activity of the synthesized NPs was assessed using the *Penicillium Expansum* (*P. expansum*) through agar well diffusion method. The $\text{Mg}(\text{OH})_2$ and $\text{AlO}(\text{OH})$ revealed comparable significant antifungal activities towards *P. expansum*. About 79% and 74% reduction in the growth of the fungus was obtained respectively of $\text{AlO}(\text{OH})$ and $\text{Mg}(\text{OH})_2$ as compared to the standard control haxahit. Nanomaterials bind on the surface of the fungi thereby preventing the normal activity of fungi and inhibit their growth, ultimately kill them. Reported NPs have significant potential to replace expensive nanomaterials in the field of antimicrobial studies.

کلمات کلیدی:

Green synthesis, Microwave, Nanoparticles, Antifungal activity

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