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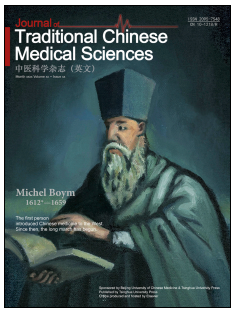


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# Bidirectional solid fermentation using *Trametes robiniophila* Murr. for enhancing efficacy and reducing toxicity of rhubarb (*Rheum palmatum* L.)

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**Abstract** *Objective:* To investigate the potential of bidirectional solid fermentation of rhubarb (*Rheum palmatum* L.) for reducing its toxicity and enhancing its medicinal efficacy.

*Methods:* The fungus *Trametes robiniophila* Murr. was inoculated into rhubarb. The chemical ingredients as well as antioxidant, antibacterial, and anticancer activities of fermented and unfermented rhubarb extracts were then determined.

*Results:* After fermentation, levels of anthraquinone glycosides (purgative ingredients) decreased significantly, while the level of anthraquinone aglycone increased. The level of gallic acid was also reduced after fermentation. Ethanol extract of rhubarb (0.8 mg/mL) exhibited DPPH-scavenging activity of 7.6% ± 0.8%, while the blank control (0.8 mg/mL rhubarb) showed 31.3% ± 2.0% activity. Antibacterial activities in fermented samples were found to be enhanced compared with unfermented samples