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## Magnolol and honokiol account for the anti-spasmodic effect of *Magnolia officinalis* in isolated guinea pig ileum.

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### Abstract

*Magnolia officinalis* is a commonly used traditional Chinese medicine for treating gastrointestinal disorders. HPLC quantification analysis revealed that magnolol and honokiol were the most abundant constituents of *M. officinalis* extracts, with their contents in the ethanol extract being the highest, the water extract the least and the 50 % ethanol extract in between. In guinea pig isolated ileum, both magnolol and honokiol inhibited contraction to acetylcholine. The herbal extracts also produced inhibitory responses, in an order of decreasing efficacy: ethanol extract > 50 % ethanol extract > water extract. The differences in inhibitory efficacies among the three extracts were similar to the differences in their magnolol and honokiol contents. Further examination demonstrated that two mixtures containing solely magnolol and honokiol at concentrations identical to those determined in the ethanol and water extracts exhibited similar levels of anti-spasmodic effects as their respective extracts while a "blank" ethanol extract free of magnolol and honokiol failed to produce any response. These observations suggest that the magnolol and honokiol contents account for the anti-spasmodic effects of *M. officinalis* extracts in guinea pig isolated ileum.

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