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Antihyperalgesic activity of quillaic acid obtained from *Quillaja saponaria* Mol.

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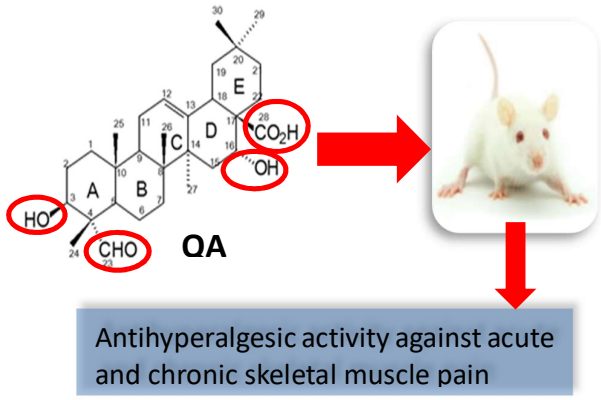
Graphical Abstract



Abstract

Quillaja saponaria Mol. bark contains a high concentration of triterpene saponins that have been used for centuries as a cleansing, antiinflammatory and analgesic agent in Chilean folk medicine[1]. In earlier studies we demonstrated, in mice, both the anti-inflammatory as well as the antinociceptive effect of the major sapogenin, quillaic acid (QA) [2,3]. Objective: To determine the antihyperalgesic effect of QA one and seven days after *itpl* administration of complete Freund's adjuvant (CFA) in male mice using the hot plate test in the presence of complete Freund's adjuvant (HP/CFA) as an acute and chronic skeletal muscle pain model. Methods: The present study evaluated the antihyperalgesic activity of QA against acute and chronic skeletal muscle pain models in mice using the hot plate test in the presence of complete Freund's adjuvant (HP/CFA), at 24 h (acute assay) and 7 days (chronic assay) , with dexketoprofen (DEX) as the reference drug. Results: In acute and chronic skeletal muscle pain assays, QA at 30 mg/kg *ip* elicited its maximal antihyperalgesic effects (65.0% and 53.4%) at 24 h and 7 days respectively. The maximal effect of DEX (99.0 and 94.1 at 24 h and 7 days respectively) was induced at 100 mg/kg.Conclusion: QA and DEX elicit dose-dependent antihyperalgesic effects against acute and chronic skeletal muscle pain, but QA is more potent than DEX in the early and late periods of inflammatory pain induced by CFA.

References

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