

Gastro-Protective Effects of Albizia anthelmintica Leaf Extract on Indomethacin-Induced Gastric Ulcer in Wistar Rats: In Silico and In Vivo Studies

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Abstract

We have previously reported that the leaf extract of *Albizia anthelmintica* exhibited substantial antioxidant, anti-inflammatory, analgesic, and antipyretic properties in vivo. We also comprehensively characterized the active phytoconstituents and found several flavonoids and galloyl glucosides derivatives. In the current work, we explored the gastroprotective effects of the leaf extract in an indomethacin-induced ulcer model and the mechanisms involved. The rats being pretreated with the tested extract (100 and 200 mg kg⁻¹) significantly prevented gastric lesions by 87.4% and 92.3%, respectively, and they had no structural derangements in the gastric mucosa. The extract significantly reduced the elevated levels of IKK β , NF- κ B, TNF- α , IL-6, iNOS, and lipid peroxidation; increased the reduced level of glutathione peroxidase (GPx) activity; and reduced glutathione (GSH) in the indomethacin-induced ulcer model. The protective activities of the extract were similar in most aspects to those exerted by the known anti-ulcer drug famotidine. These activities might be attributed to the anti-inflammatory and antioxidant activities, and the reduction of iNOS levels. In conclusion, *Albizia anthelmintica* is a potential candidate for management of gastric ulcers with antioxidant properties.



Biography

Mohamed Nabil was born in Makka, Saudi Arabia, in 1979. He received his master's and Ph.D. in pharmacology and toxicology in 2014 and 2020 from Zagazig University. From 2015 to 2020, he worked at a research center concerned with the preclinical studies and development of pharmaceutical industries where he acts in the last three years as a manager of the molecular biology department. Since 2020 he is a lecturer of clinical pharmacology and bioassay at Deraya University. He is the lead author of 3 publications and co-author of another 3 publications. His research activity is focused on gastritis, stroke, metabolic syndrome, and neurodegenerative disorders. His studies main to biologically evaluate natural products, finding new indications of commercially used drugs, and improvement of neuroregeneration after neuro damage

Publications

- A Stable Route Prediction and the Decision Taking at Sending a Data Packet in a Highway Environment
- *Syzygium samarangense* leaf extract mitigates indomethacin-induced gastropathy via the NF- κ B signaling pathway in rats
- Gastro-Protective Effects of *Albizia anthelmintica* Leaf Extract on Indomethacin-Induced Gastric Ulcer in Wistar Rats: In Silico and In Vivo Studies
- Prolonged overnutrition with fructose or fat induces metabolic derangements in rats by disrupting the crosstalk between the hypothalamus and periphery: Possible amelioration with fenofibrate

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