

# Microscopical, physicochemical and nutritional characterization of three herbal hepatoprotectives

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## Abstract

Plant-based health products play, nowadays, an important role in the global drug market. Despite this constant rise in commercial importance, the processing of herbal drugs lacks reliable scientific assessment and is often performed without strict regulations. To guarantee the quality of the final product, well-defined specification criteria should be established for raw materials before manufacture. The quality and correct identity of crude powdered plants or plant organs can be checked via inspection of sensory, microscopical and physicochemical characteristics. Liver disorders represent a threatening health problem in Egypt. Herbs are frequently used as supportive complementary remedies to alleviate these ailments. The objective of this study was to establish reliable criteria for proper identification of three hepatoprotective herbal drugs viz., seeds of *Linum usitatissimum* L. (flaxseeds) and *Trigonella foenumgraecum* L. (fenugreek seeds), and leaves of *Rosmarinus officinalis* L. (rosemary leaves). The powdered samples were microscopically examined and subjected to proximate, physicochemical and nutritional analysis. The present work will, thus, provide helpful information on the quality of these herbal materials to ensure genuineness, safety and efficacy prior incorporation in pharmaceutical formulations.

Key words: Quality control, flax, fenugreek, rosemary, hepatoprotective.

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