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Working

Free radical scavenging activity

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ABSTRACT

Free radical scavenging assay was measured using 1,1-diphenyl-2-picrylhydrazyl (DPPH) free radical test. To each aqueous extract 3 mL of 0.1 mM solution of DPPH in methanol was added (Fermont, Monterrey). Tubes were shaken vigorously and allowed to stand for 30 min at room temperature in the dark. Absorbance was measured at 517 nm. Distilled water was the control and ascorbic acid served as the standard. Free radical scavenging activity was expressed as inhibition percentage and was calculated using the formula (A0 – A1)/A0 × 100, where A0 was the control absorbance and A1 was the sample absorbance. All tests were performed in triplicate and antioxidant activity was quantified by a regression analysis of percentage of free radical scavenging (%) versus phenolic compound concentration in the aqueous extract; this was defined as an IC_{50} value, which is the amount of antioxidant necessary to decrease the initial DPPH radical concentration by 50%. Ascorbic acid was used as control.

EXTERNAL LINK

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THIS PROTOCOL ACCOMPANIES THE FOLLOWING PUBLICATION

Meda A, Lamien CE, Romito M, Millogo J, Nacoulma OG. Determination of the total phenolic, flavonoid and proline contents in Burkina Fasan honey, as well as their radical scavenging activity. Food Chem. 2005; 91: 571-577.

PROTOCOL STATUS

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MATERIALS

NAME	CATALOG #	VENDOR
1,1-diphenyl-2-picrylhydrazyl		Sigma Aldrich
methanol		Sigma Aldrich

SAFETY WARNINGS

1 To each aqueous extract 3 mL of 0.1 mM solution of DPPH in methanol was added. Tubes were shaken vigorously and allowed to stand for 30 min at room temperature in the dark.

2 Absorbance was measured at 517 nm. Distilled water was the control and ascorbic acid served as the standard.

3 Free radical scavenging activity was expressed as inhibition percentage and was calculated using the formula (A0 – A1)/A0 × 100, where A0 was the control absorbance and A1 was the sample absorbance.

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4 Antioxidant activity was quantified by a regression analysis of percentage of free radical scavenging (%) versus phenolic compound concentration in the aqueous extract; this was defined as an IC_{50} value, which is the amount of antioxidant necessary to decrease the initial DPPH radical concentration by 50%. Ascorbic acid was used as control.

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