

Anti-Oxidant and Anti-Bacterial Properties of *Camellia sinensis*, Tea Plant

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Abstract : The aim of the present study was to assess the biological properties of *Camellia sinensis* and to identify its functional compounds. The methanolic leaves-extract (MLE) of commercial green tea (*Camellia sinensis*) was assessed for anti-bacterial activities by measuring inhibition zones against a panel of pathogenic bacterial strains using agar diffusion method. The flavonoid (5.0 to 8.0 mg/ml) and protein content (10 to 15 mg/ml) of the MLE were recorded. MLE at a concentration of 25 µg/ml showed marked anti-bacterial activity against all bacterial strains (11-30 mm zone of inhibition) and was maximum against *Staphylococcus aureus* (30 mm). The MLE of *Camellia sinensis* had the best MIC values of 2.25 and 0.56 mg/ml against *S. aureus* and *Enterobacter sp.*, respectively. The MLE also possessed good anti-lipolytic activity (65%) against a Porcine pancreatic lipase (PPL) and cholesterol oxidase inhibition (79%). The present study provided strong experimental evidences that the MLE of *Camellia sinensis* is not only a potent source of natural anti-oxidants and anti-bacterial activity but also possesses efficient cholesterol degradation and anti-lipolytic activities that might be beneficial in the body weight management.

Keywords : anti-oxidant, anti-bacterial activity, anti-lipolytic activity, *Camellia sinensis*, phyto-chemicals

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