Antihemolytic activities and the inhibitory effect of lipid peroxidation of a new coumarin of *Tamus communis* L.

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The present paper describes the isolation, characterization, and antioxidant activity of a new coumarin; 5,8-dimethoxypsoralen which was isolated for the first time from the plant known as *T. communis*. The plant *Tamus communis* L. (Dioscoreaceae), commonly known as Black Bryony, is distributed all over the tropical and warm temperate regions of the world. The methanolic extract of the rhizomes of the plant was subjected to column chromatography over silica gel followed by preparative thin layer chromatography. Purification and structure determination have were operated by chemical analysis; mass spectroscopy (MS) and RMN H1 protons and C13.The antioxidant properties of 5,8- dimethoxypsoralen have been studied by two methods, evaluating its ability to protect RBCs from AAPH (2,2_-azobis (2-amidinopropane) hydrochloride) induced oxidative damage and lipid peroxidation. The inhibitory effect of lipid peroxidation showed that the inhibition of the compound (89.9 ± 0.1) are similar to that of BHT (86.03 ± 0.45) ($p > 0.05$) and showed significant anti-hemolytic activity expressed by a significant prolongation, the HT50 increased from 70.34 ± 2.15 min for control CTL (AAPH) to (130.485 ± 7.77 min). These results indicate that the roots of *T.communis* are a promising source of antioxidants.