

Research Article

Apoptotic, antioxidant and antiradical effects of majdine and isomajdine from *Vinca herbacea* Waldst. and kit

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Abstract

In the present study, apoptotic, antioxidant and antiradical effects of majdine and isomajdine from *Vinca herbacea* Waldst. and Kit were studied. For testing the possible apoptotic effects of majdine and isomajdine from *V. herbacea*, DNA fragmentation assay was conducted on the rat brain cortical tissue homogenates, *in vitro*. Also their possible effects on mitochondrial activity were tested by using the same tissue samples of rats. In addition, the antioxidant activity of isomajdine and majdine was determined using various *in vitro* antioxidant assays, including 2,2'-azino-bis(3-ethylbenzthiazoline-6-sulfonic acid) (ABTS^{•+}) radical scavenging and *N,N*-dimethyl-*p*-phenylenediamine (DMPD^{•+}) radical scavenging, ferric ions (Fe³⁺) and cupric ions (Cu²⁺) reducing abilities and ferrous ions (Fe²⁺) chelating activity. On the other hand, butylated hydroxyanisole (BHA), butylated hydroxytoluene (BHT), α -tocopherol and trolox (6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid) were used as reference antioxidants.

Keywords: Antioxidant activity, radical scavenging, apoptotic effect, isomajdine, majdine

