

# Antioxidant Properties of Galantamine Hydrobromide

M. Traykova<sup>a\*</sup>, T. Traykov<sup>b</sup>, V. Hadjimitova<sup>b</sup>, K. Krikorian<sup>c</sup>, and N. Bojadgieva<sup>a</sup>

<sup>a</sup> Department of Pharmacology and Toxicology, Medical Faculty, Sofia University of Medicine, 2 Zdrave Street, Sofia 1431, Bulgaria. Fax: +35 92 54 46 63.

E-mail: m\_traykova@mail.bg

<sup>b</sup> Department of Physics and Biophysics, Medical Faculty, Sofia University of Medicine, 2 Zdrave Street, Sofia 1431, Bulgaria

<sup>c</sup> Institute of Organic Chemistry, Bulgarian Academy of Sciences, G. Bonchev Boulevard, Sofia 1000, Bulgaria

\* Author for correspondence and reprint requests

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The antioxidant properties of galantamine hydrobromide ((4 $\alpha$ ,6 $\beta$ )-4a,5,9,10,11,12-hexahydro-3-methoxy-11-methyl-6H-benzofuro[3a,3,2-ef][2]benzazepin-6-ol hydrobromide) were studied *in vitro*, using luminol-dependent chemiluminescence and spectrophotometry. It was found that this compound was a scavenger of reactive oxygen species (ROS). By comparing the antioxidant effects of galantamine ((4 $\alpha$ ,6 $\beta$ )-4a,5,9,10,11,12-hexahydro-3-methoxy-11-methyl-6H-benzofuro[3a,3,2-ef][2]benzazepin-6-ol), galantamine hydrobromide, narwedine (4a,5,9,10,11,12-hexahydro-3-methoxy-11-methyl-6H-benzofuro[3a,3,2-ef][2]benzazepin-6-one), and narwedine hydrobromide it was found that the antioxidant activity depended on the enolic OH group in the molecule. The presence of a quaternary nitrogen in the compound increased the strength of the scavenging effect. It is proposed that the antioxidant properties observed *in vitro* may contribute to the therapeutical effect of galantamine hydrobromide on patients with brain degeneration.

**Key words:** Galantamine Hydrobromide, Narwedine, Antioxidant Properties