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## N.N-dimethylglycine-amantadine – synthesis and biological activity (antiparkinsonian activity)

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MDA receptor blockade can improve L-DOPA-induced dyskinesias in Parkinson's disease (PD) patients. Amantadine is well-tolerated and effective antiparkinsonian agent, was recently found to possess NMDA antagonistic properties. Oxidative damage, may contribute to <u>dopaminergic neurodegeneration</u> in the substantia nigra of patients with PD. <u>N. N-Dimethylglycine</u> (DMG) (also known as vitamin B15 or pangamic acid) acts as an antioxidant, extending the lifespan of animal cells through protection from oxidation. In this study we synthesized and tested in vivo the newly obtained compound <u>N.N-Dimethylglycine-Amantadine</u> (DMG-Am) for antiparkinsonian activity. MPTP (1-methyl -4 –phenyl-1, 2, 3, 6- tetrahydropyridine) is widely used neurotoxin as an experimental model which mimics some Parkinson's disease-like symptoms.

**Conclusion**: In conclusion, in this study we report that neuroprotective capacity of new amantadine derivative DMG-Am was evaluated by its potential to ameliorate the behavioral changes induced by the toxin. Our experimental results showed that DMG-Am applied for 12 consecutive days, 5 days simultaneously and 7 days after MPTP restored motor and memory performance of the animals to the control level, indication of beneficial protective effect of this compound. In DMG-Am treated group the motor and memory behavior of the animals were as in the control group.

## Biography

Ivanka Stankova is affiliated to South-West University. She is a recipient of many awards and grants for his/her valuable contributions and discoveries in major area of subject research. Her international experience includes various programs, contributions and participation in different countries for diverse fields of study. Her research interests include <u>Amino Acid</u>, Chemical Stability, <u>Hydroxycinnamic Acid</u>, Peptides and Thiazole Oxazole.