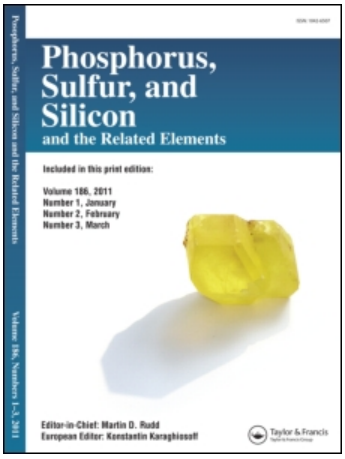

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Synthesis and Some Properties of Phosphorylated Carboxylic Acid Hydrazides - a Novel Class of Memory Enhancers and Neuroprotectors

R. Tarasova[a]; O. Voskresenskaja[a]; I. Semina[b]; V. Pavlov[a]; V. Moskva[a]; I. Litvinov[c]
[a] Department of Organic Chemistry, Technological University, Kazan, Russia [b] Department of Pharmacology, Medical University, Kazan, Russia [c] Institute of Organic and Physical Chemistry, Kazan, Russia

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Synthesis and Some Properties of Phosphorylated Carboxylic Acid Hydrazides – a Novel Class of Memory Enhancers and Neuroprotectors

R. TARASOVA[a], O. VOSKRESENSKAJA[a], I. SEMINA[b], V. PAVLOV[a], V. MOSKVA[a] and I. LITVINOV[c]

[a]*Department of Organic Chemistry, Technological University, Kazan, 420015, Russia,* [b]*Department of Pharmacology, Medical University Kazan, 420012, Russia and* [c]*Institute of Organic and Physical Chemistry, Kazan, 420088, Russia*

We recently reported the synthesis of phosphorylcarboxylic acid hydrazides as a novel class of non-anticholinesterase compounds possessing neurotropic action [1]. This has now been extended to a new variety of hydrazide derivatives (I-VI) combined by common formulas **4-R'C_6H_4P(O)(OR)CH_2C(O)NHX**

No	I	II	III	IV	V	VI
X	NH_2	$N_3H^+Cl^-$	N-C(Y)Z	NHCH(Y)Z	$NHCH(OH)CCl_3$	NHC(O)Me

The lead representative of this series, CAPAH (Ia, R=ClC_2H_4, R'=Me_2N), demonstrates activity *in* behavioural models of cognition, neuroprotection and depression [2]. The neurotropic effects of compounds (I-VI) depending on variation of substituents both at P-atom and at terminal N-atom of hydrazide fragment were explored. N-unsubstituted hydrazides (I) were discovered to combine antidepressive, neuroprotective and memory enhancement activities that were increased with both an aryl and the 2-chloroethoxy substituents at P-atom. As a whole salts (II) keep the activities of their precursors. The series of N-substituted hydrazides (III-V) have shown loss or weakening of studied effects, though N-acylhydrazide (VI) displays activity on the all tested models but at relatively large doses. Thus, the novel series of phosphorylated hydrazides shows the beneficial complex of neurotropic action and may be the candidates for therapeutic use, for example in dementias or neurodegenerative disorders including Alzheimer's disease.

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