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Method for Increasing the Production or Activity of Catalase in the Body

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Abstract

The aim of this study is to develop a new, more sensitive and accurate method for the induction and/or activation of catalase (CAT) in the body. The proposed goal is achieved by using bromo-2-{[2-(prop-2-en-1-ylcarbamothioyl)-hydrazinylidene]methyl}phenolatocopper – a coordinating compound from the class of thiosemicarbazidates of transition metals, which expands the arsenal of synthetic compounds with high CAT induction and/or activation activity. The synthesismethod of this compound and its structural formula are described. It was established that this compound exhibits the highest induction and/or activation of catalase, which exceeded 2.7 the values of the control group and 1.8 the values produced by vitamin D3 (prototype). This indicates the existence of an excessive synthesis of catalase after exposure to this compound, a particularly important fact established by us for the first time.

This compound can be used in medicine as a therapeutic agent, which, by activating the important production of catalase in the body, can prevent and/or reduce the occurrence of neurodegenerative, renal, cardiovascular pathologies, atherosclerosis and carcinogenesis, inflammatory processes, the development of cellular and tissue damage, associated with excessive accumulation of hydrogen peroxide.

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The obtained data mark a beginning that opens the perspectives of developments, which will diversify the arsenal of effective tools to combat various severe pathological processes.

Keywords: copper coordinating compounds, thiosemicarbazide derivate, catalase activating, multifactorial diseases

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