



Review

Lipoic acid – the drug of the future?

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Abstract:

Numerous experimental and clinical studies proved efficiency of treatment with lipoic acid-containing drugs in diseases, in which pro- and antioxidant balance is disrupted (diabetes, neurodegenerative diseases, acquired immune deficiency syndrom (AIDS), tumors, etc.). Efficiency of lipoate has been attributed to unique antioxidant properties of lipoate/dihydrolipoate system, its reactive oxygen species (ROS) scavenging ability and significant effect on the tissue concentrations of reduced forms of other antioxidants, including one of the most powerful, glutathione (thus lipoate is called an antioxidant of antioxidants). Moreover, analysis of literature data suggests participation of lipoic acid in processes of cell growth and differentiation. This fact can be crucial to clinical practice, however, this problem requires further studies.

Key words:

lipoic acid, diabetes, neurodegenerative diseases, tumors, signal transduction
