

## Esclerose múltipla e ácido alfa-lipóico

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Mais um trabalho que mostra os efeitos benéficos no tratamento de doenças de substancias que abrem as portas da fosforilação oxidativa mitocondrial aumentando a geração de ATP. Vide revisão do assunto : Biblioteca de Doenças : Alzheimer JFJ.

**Lipoic acid: a novel therapeutic approach for multiple sclerosis and other chronic inflammatory diseases of the CNS.**

**Endocr Metab Immune Disord Drug Targets. 2008 Jun;8(2):132-42**

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The naturally occurring antioxidant lipoic acid (LA) was first described as an essential cofactor for the conversion of pyruvate to Acetyl-CoA, a critical step in respiration. LA is now recognized as a compound that has many biological functions. Along with its reduced form dihydrolipoic acid (DHLA), LA reduces and recycles cellular antioxidants such as glutathione, and chelates zinc, copper and other transition metal ions in addition to heavy metals. LA can also act as a scavenger of reactive oxygen and nitrogen species. By acting as an insulin mimetic agent, LA stimulates glucose uptake in many different cell types and can also modulate insulin signaling. The p38 and ERK MAP kinase pathways, AKT and NFkappaB are all regulated by LA. In addition, LA activates the prostaglandin EP2 and EP4 receptors to stimulate the production of the small molecule cyclic adenosine 5' monophosphate (cAMP). These diverse actions suggest that LA may be therapeutically effective in treating oxidative stress associated diseases. This review discusses the known biochemical properties of LA, its antioxidant properties, its ability to modulate signal transduction pathways, and the recent progress made in the utilization of LA as a therapeutic alternative for multiple sclerosis, Alzheimer's disease and diabetic neuropathy.

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