

Extended Abstract

Cytoprotective and Antioxidants in Peroxisomal Neurodegenerative Diseases †

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Several of the peroxisomal neurodegenerative disorders are the consequence of a specific deficiency of an enzyme or a transporter involved in peroxisomal beta-oxidation of very long chain fatty acids [1,2]. One of the hallmarks in these peroxisomal rare neurodegenerative diseases and in other common demyelinating disorders is the accompanying oxidative damage and neuroinflammation [3]. Compelling data indicates that oxidative stress can activate microglia leading to the overproduction of pro-inflammatory molecules [4,5]. Thus, targeting oxidative stress to limit neuroinflammation may open a new pharmacological therapy window for these still incurable devastating peroxisomal diseases. Here, we present different natural (resveratrol) [6] and synthetic (organoselenides) [7] antioxidant compounds for their capacity of scavenging oxidative stress and in the perspective therapeutic use against oxidative damage in peroxisomal disorders.

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