Inhibitors, Agonists, Screening Libraries

Data Sheet

Product Name: Riboflavin Tetrabutyrate
Cat. No.: HY-B2239
CAS No.: 752-56-7
Molecular Formula: C33H44N4O10
Molecular Weight: 656.72
Target: Others
Pathway: Others
Solubility: DMSO: ≥100 mg/mL

BIOLOGICAL ACTIVITY:
Riboflavin tetrabutyrate is a lipophilic flavin derivative with antioxidative and lipid peroxide-removing activity.

In Vitro: Riboflavin tetrabutyrate inhibits oxygen uptake by lipid peroxidation. Riboflavin tetrabutyrate is suppressive against both NADPH-coupled and ascorbate-induced microsomal lipid peroxidation. Riboflavin tetrabutyrate seems to exhibit its antioxidative action at or after the hydrogen atom is abstracted as a free radical from an active methylene group of polyunsaturated fatty acids during the process of enzymic oxidation-reduction reaction[1].

In Vivo: Riboflavin tetrabutyrate might improve the metabolism of lipids in patients suffering from atherosclerosis, diabetes, fatty liver and so on through the inhibition of lipid peroxide, resulting in the decrease of the elevated serum lipid[1]. Feeding of riboflavin tetrabutyrate results in an increase in the hepatic activity of 3-ketoacyl-CoA thiolase by 50% of the control level, while the activities of renal 3-ketoacyl-CoA thiolase and of hepatic and renal acyl-CoA synthetase and acyl-CoA dehydrogenase remain unaffected. The increase in hepatic 3-ketoacyl-CoA thiolase activity suggests that prolonged riboflavin tetrabutyrate administration results in an increased beta-oxidation of fatty acid in the liver [2].

PROTOCOL (Extracted from published papers and Only for reference)
Animal Administration: Riboflavin tetrabutyrate is suspended in soybean oil and given per os[3].[3] Rat: Riboflavin tetrabutyrate-14C (700 μg, corresponding to 400 μg of riboflavin; total radioactivity 2.19×10^5 cpm) is suspended in 0.2mL of soybean oil and given per os. In the case of injection, same amount of Riboflavin tetrabutyrate-14C is dissolved in 1mL of soybean oil and injected subcutaneously into the back of rat[3].

References:

Caution: Product has not been fully validated for medical applications. For research use only.
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