

Product Data Sheet

Product Name: Riboflavin Tetrabutyrate

Cat. No.: GC37531

Chemical Properties

Cas. No. 752-56-7

SMILES O=C(CCC)O[C@H]([C@H](OC(CCC)=O)[C@H](OC(CCC)=O)COC(CCC)=O)CN1C(C=C(C)C(C)=C2)=C2N=C(C(N3)=O)C1=NC3=O

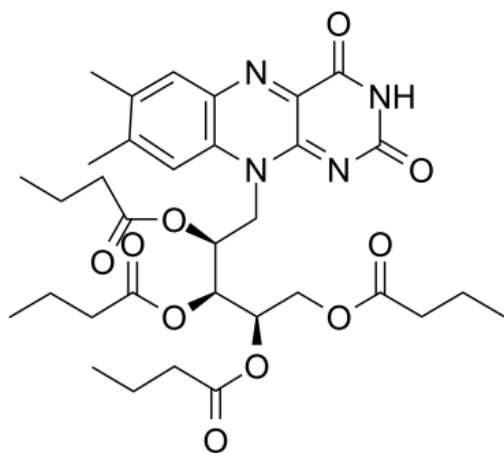
Formula $C_{33}H_{44}N_4O_{10}$ M.Wt 656.72

Solubility DMSO: ≥ 100 mg/mL (152.27 mM) Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Riboflavin Tetrabutyrate is a lipophilic flavin derivative with antioxidative and lipid peroxide-removing activity.

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

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abstracted as a free radical from an active methylene group of polyunsaturated fatty acids during the process of enzymic oxidation-reduction reaction[1].

Riboflavin Tetrabutyrates 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 Tetrabutyrates 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 Tetrabutyrates administration results in an increased beta-oxidation of fatty acid in the liver [2].

[1]. Tahara K, et al. Effect of riboflavin and riboflavin 2',3',4',5'-tetrabutyrates on rat liver microsomal lipid peroxidation. J Nutr Sci Vitaminol (Tokyo). 1974;20(2):81-8. [2]. Okuno E, et al. Effect of chronic administration of riboflavin 2',3',4',5'-tetrabutyrates on the hepatic enzymes of fatty acid oxidation in the rat. J Nutr Sci Vitaminol (Tokyo). 1983 Dec;29(6):637-42. [3]. Yagi K, et al. Studies on fatty acid esters of flavins. VI. Incorporation of riboflavin part of riboflavin tetrabutyrates-2-¹⁴C into flavin nucleotides in the organs of rat. J Vitaminol (Kyoto). 1969 Jun 10;15(2):155-9.

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