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• 中文摘要

Isoferulic acid 爲降血糖活性成分，對第一型糖尿病較第二型糖尿病老鼠作用較爲顯著；今擬以 Isoferulic acid 爲目標進行構造修飾，合成一系列 Isoferulic acid 衍生物，研討化學構造對降血糖藥效影響，23 種類似物經化學製備完成並經光譜分析確認其化學構造。初步選擇十五種化合物進行活性試驗。測試體肌母細胞對葡萄糖吸回作用，發現化合物 6、11、16、22 及 24 的作用較 Isoferulic acid 爲佳，其中又以化合物 6 及 11 活性最爲顯著。

• 英文摘要

Isoferulic acid has been identified to have in vivo antihyperglycemic activity. The lowering effect of plasma glucose by isoferulic acid in IDDM rats is more active than that in NIDDM rats. The antihyperglycemic mechanism is not only to enhance glucose utilization in peripheral tissues but also to reduce hepatic gluconeogenesis. In order to study the structure and activity relationship of isoferulic acid, 23 isoferulic acid analogues were prepared by chemical synthesis and their antidiabetic activities were evaluated. All these analogues were characterized by spectrometric analysis. Fifteen compounds were selected to evaluate the glucose uptake of soleus muscle cells from streptozotocin induced diabetic rats. It showed that 6, 11, 16, 22, and 24 were more active than that of isoferulic acid. Compound 6 and 11 have the most remarkable activities.