

资源环境 生物药物 生物质转化

## 鹌鹑油纳米乳剂对急性高脂血症小鼠血脂的影响

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### 摘要:

采用微射流技术制备鹌鹑油纳米乳, 研究其对高脂饲料诱导的急性高脂血症模型小鼠血脂的影响, 并评价鹌鹑油纳米乳的辅助降血脂功能。以昆明种小鼠为实验动物, 采用腹腔注射75%蛋黄乳剂建立高脂血症模型, 口服灌胃不同剂量的鹌鹑油纳米乳(按鹌鹑油剂量计, 分别为1 mL/kg、2 mL/kg、3 mL/kg), 给药结束后分离小鼠血清, 测定血清中甘油三酯(TG)、总胆固醇(TC)、高密度脂蛋白胆固醇(HDL-C)含量。结果显示采用微射流方法成功制备得到粒径较小且粒度分布均一的鹌鹑油纳米乳; 服药后, 高脂血症模型组与正常对照组相比较, TG、TC明显升高( $P < 0.001$ )、HDL-C变化不明显( $P > 0.05$ ); 与模型组比较, 鹌鹑油纳米乳剂组TG、TC含量降低, 且呈剂量依赖性, 高剂量组最为明显( $P < 0.01$ ), 而且与鹌鹑油对照组比较, 作用更为明显, 表明制备的鹌鹑油纳米乳具有辅助降血脂功能。

**关键词:** 鹌鹑油; 纳米乳; 降血脂

## Effects of EMU Oil Nanoemulsion on Reducing Blood Lipid in Hyperlipemia Model Mice

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### Abstract:

EMU oil nanoemulsion was prepared using microfluidic technology. Its effect on reducing blood lipid in hyperlipemia model mice was studied. The Kunming mice were taken as experimental animal and fed with 75% yolk emulsion via intraperitoneal to produce hyperlipemia model mice. After they were administrated with different dosage of EMU oil nanoemulsion (1 mL/kg, 2 mL/kg, 3 mL/kg based on EMU oil dose, respectively), their serums of each group were extracted. Then the TG (triglyceride), TC (total cholesterol) and HDL-C (high density lipoprotein-cholesterol) contents in serum were examined. The results showed that EMU oil nanoemulsion was prepared successfully by using microfluidic technology with small size and homogeneous distribution. After taken EMU oil nanoemulsion, in comparison with normal control group, TC and TG in hyperlipemia model group were increased significantly ( $P < 0.001$ ), but no obvious change of HDL-C was found ( $P > 0.05$ ). Compared with the model group, the contents of TC and TG were decreased in EMU oil nanoemulsion groups, and the higher dosage group decreased more distinctively ( $P < 0.01$ ), especially when compared with the EMU oil group. The results indicated that EMU oil nanoemulsion had assistant function of reducing blood lipid.

**Keywords:** EMU oil nanoemulsion reducing blood lipid

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