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The Pharmacological effects of novel 5-fluoro-N-(9,10-dihydro-9,10-dioxoanthracen-8-yl)-1H-indole-2-carboxamide derivatives on plasma lipid profile of Triton-WR-1339-induced Wistar rats

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## Abstract

A novel series of 5-fluoro-N-(9,10-dihydro-9,10-dioxoanthracen-8-yl)-1H-indole-2-carboxamides (3c-3g) were synthesized. The present study was undertaken to investigate the possible antihyperlipidemic effect of these novel compounds on hyperlipidemic rats. Hyperlipidemia was induced by a single intraperitoneal injection of Triton WR-1339 (300 mg/kg). The tested animals were divided into normal control (NCG), hyperlipidemic control (HCG), compounds 3c-, 3d-, 3e-, 3f-, 3g- and bezafibrate (BF)-treated groups. At a dose of 15 mg/kg, compounds 3c-3g and BF (100 mg/kg) significantly ($p < 0.0001$) reduced elevated plasma triglycerides levels after 12 and 24 h compared to the hyperlipidemic control group. However, only compounds 3e and 3g obviously showed a significant ($p < 0.0001$) reduction in plasma total cholesterol levels after 12 and 24 h. Moreover, high-density lipoprotein cholesterol levels were significantly increased in all treated groups. The current study demonstrates that 5-fluoro-N-(9,10-dihydro-9,10-dioxoanthracen-8-yl)-1H-indole-2-carboxamides (3c-3g) have a definite antihyperlipidemic potential and these beneficial activities may contribute to their cardioprotective and antiatherosclerotic role.

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EFFECT OF HEAT TREATMENT OF HoBa2Cu3O7-δ CERAMICS SUPERCONDUCTOR SYNTHESIZED FROM NANO-COPRECIPITATED POWDERS

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Nano-sized metal oxalate precursors was thermally treated and investigated to produce high temperature superconducting ceramics with a formula of HoBa2Cu3O7-δ (Ho-123). The nano metal oxalate powders were subjected to different heat treatments at various temperatures for the phase formation study. The high-TC phase was observed for all samples as an evidence for the single step transition of (R–T) curves. The TC(R = 0) for Ho123 is 91 K and 90 K for samples sintered at 920°C, 930°C and 88 K for samples sintered at 940°C and 950°C, respectively. XRD data showed single phase of an orthorhombic structure where a small amount of none superconducting phase Ho2BaCuO5(Ho211) phase was detected. The Ho211 phase was increased as sintering temperature increased due to the decomposition process and affected the transport properties. SEM micrographs showed large grain sizes that are randomly distributed. However, the grain size decreased as the sintering temperature increased which resulted in the formation of weak-links and hence decreases the transport properties. Using nano-sized metal oxalate precursors simplified the formation of HTSC materials with less processing temperatures which could be beneficial in superconducting tape industry. In addition, control of the sintering temperature lead to the formation of Ho123 phase with optimum amount of Ho211 phase which acts as pinning centers and improves the transport properties

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