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Inhibitory effects of 4-(4-methylbenzamino) benzoate on adipocyte differentiation

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Although some anti-obesity drugs are currently available, such as orlistat, sibutramine or sertraline, several side effects have been reported. Thus, studies are being conducted on compounds with anti-obesity effects to replace these drugs. In this study, the potent suppression of adipocyte differentiation by resveratrol derivative, 4-(4-methylbenzamino) benzoate, was discovered during the search for new anti-obesity compounds. 4-(4-methylbenzamino) benzoate was observed to suppress adipocyte differentiation in 3T3-L1 cells by 96.8% at 50 μ M without cytotoxicity. In addition, 4-(4-methylbenzamino) benzoate reduced the cellular expression of fatty acid synthase in a concentration-dependent manner, as well as suppressing PPAR-gamma activity, which controls fatty acid storage and glucose metabolism. Based on these results, 4-(4-methylbenzamino) benzoate shows potential as an anti-obesity material.

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