題名:Magnolol inhibits human glioblastoma cell oroliferation through upregulation of p21/Cip1

作者:何元順

Li-Ching Chen; Yu-Chi Liu; Yu-Chih Liang; Yuan-Soon Ho; Wen-Sen Lee;

貢獻者:醫學檢驗暨生物技術學系

上傳時間:2009-08-25T02:38:39Z

摘要:Previously, we demonstrated that magnolol isolated from the bark of Magnolia officinalis has anticancer activity in colon, hepatoma, and leukemia cell lines. In this study, we show that magnolol concentration dependently (0-40 muM) decreased the cell number in a cultured human glioblastoma cancer cell line (U373) and arrested the cells at the G0/G1 phase of the cell cycle. Magnolol treatment decreased the protein levels of cyclins A and D1 and increased p21/Cip1, but not cyclins B and D3, cyclin-dependent kinase (CDK)2, CDK4, CDC25C, Weel, p27/Kip1, and p53. The CDK2-p21/Cip1 complex was increased, and the CDK2 kinase activity was decreased in the magnolol-treated U373. Pretreatment of U373 with p21/Cip1 specific antisense oligodeoxynucleotide prevented the magnolol-induced increase of p21/Cip1 protein levels and the decrease of DNA synthesis. Magnolol at a concentration of 100 muM induced DNA fragmentation in U373. Our findings suggest the potential applications of magnolol in the treatment of human brain cancers.