Lítio. Suprime o aumento da proteína supressora do câncer (p53) no neuroblastoma e pode ser prejudicial para os pacientes com câncer

O lítio suprimindo a p53 no neuroblastoma facilita a proliferação celular neoplásica. Não sabemos se em outros tipos de câncer o lítio promove este efeito, entretanto, por segurança devemos nos abster de usar lítio no tratamento de pacientes com câncer.

Lithium attenuates p53 levels in human neuroblastoma SH-SYSY cells.

Department of Psychiatry and Behavioral Neurobiology, University of Alabama at Birmingham, 35294-0017, USA.
Lithium has neuroprotective effects in a number of model systems which may contribute to the therapeutic effects of lithium in mood disorders. Because the tumor suppressor p53 is linked to cell death, we tested whether lithium administration to human neuroblastoma SH-SYSY cells modulated the activation of p53. After treatment of cells with H7 (25, 50, and 75 microM), nuclear p53 levels were increased to 464, 816 and 1079% of basal levels, respectively. A 24 h pretreatment with 5 mM lithium reduced these increases by 69, 61 and 28%, respectively. Pretreatment with 2 mM lithium for 1 or 14 days reduced the 25 microM H7-induced elevations of nuclear p53 by 40 and 70%, respectively, and even a 14-day pretreatment with 1 mM lithium caused a significant 16% reduction. Since increased nuclear p53 is a critical intermediate step in many signaling processes that culminate in cell death, attenuation of p53 activation by lithium reveals a mechanism by which lithium may support neuronal survival.

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