



Review

Antiapoptotic action of lithium and valproate

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Abstract:

Lithium and valproate (VPA) have been the most widely prescribed mood stabilizers for the therapy of bipolar disorders (BD) for more than 50 years. However, the precise molecular mechanism of their pharmacological activity is not fully known. Recent studies have suggested that both drugs exert antiapoptotic effects. This review focuses on the influence of lithium and VPA on intracellular apoptotic signaling pathways. The active sites, which are implicated in mediating their action, have been described. It has been found that both drugs block the key proapoptotic molecules (GSK-3 β , caspase cascades) and enhance survival pathways (ERK1/2 and Bax proteins). The potential significance of the reported antiapoptotic effects has been discussed.

Key words:

lithium, valproate, pro- and antiapoptotic factors
