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Title (English)

Constitutive activation of the RAF-MEK-ERK pathway in cancer development

Abstract

We performed a saturating screen for activating mutations in the protein kinase BRAF (one of three RAF isoforms, RAF=Ras Acticated Factor) that can elicit oncogenic transformation of mammalian cells in tissue culture, and we investigated the role of constitutively activated BRAF-MEK-ERK signaling on the pro-apoptotic protein BIM and on apoptosis in melanoma cell lines. In the screen for activating mutants, the positive control and the random mutants failed to transform any of the cell lines used. The results from the melanoma cell lines demonstrate that expression of the BIM is affected by BRAF-MEK-ERK signaling. The results also show that the presence of BIM alone in insufficient for induction of apoptosis in melanoma cells.

Keywords

BRAF, activating mutants, genomic screen, melanoma, BIM, apoptosis

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