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Biological And Chemical Approach of the Inhibition of Signaling Cascades in Mouse Skin Carcinogenesis

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AIM

In this project we investigated the inhibition of carcinogenic phenotypes of mouse skin using a biological and chemical approach.

MATERIALS-METHODS

A5 and CarB cell lines were used in standard tissue culture conditions. These cell lines represent the late stages of mouse skin carcinogenesis. We also used the cell lines PDV and PDVC57 (squamous carcinomas) which present different ratio of normal and mutated H-ras (1:2 and 2:1 respectively). For the purpose of this investigation we used the molecular techniques for protein detection as well as for gene transfer. Additional experimental tools that were used are the dominant negative mutant of ATF-2 transcription factor and the PD98059 chemical inhibitor of ERK1/2 kinases.

RESULTS

Treatment of spindle aggressive carcinogenic phenotypes with the PD98059 inhibitor and introduction of the dominant negative ATF-2 resulted to the reversion of the spindle phenotype to squamous.

CONCLUSIONS

The results suggest that ERK1/2 kinases and ATF-2 transcription factor play an important role in the degree of progression of mouse skin carcinogenesis.