QZ 411 ALTERATIONS IN THE EXPRESSION OF THE PROTEIN KINASE C ISOTYPES IN HUMAN CELL LINES AND TISSUE BIOPSIES. Douglas T. Yamanishi, Shigeo Ohno, James Jakowatz, Matthew Goodman, and Frank L. Meyskens Jr., Clinical Cancer Center, U.C. Irvine, Irvine, CA 92717, and Dept. of Mol. Biol., Yokohama City University School of Medicine, Yokohama, 236, Japan.

Our previous studies on the expression of the protein kinase C (PKC) isotypes (α, β, γ, and ε) in human primary melanocytes and metastatic melanoma cell strains had shown that metastatic melanoma cells did not express PKC β_{II} RNA transcripts using Northern blot hybridization analysis. We have extended our PKC studies to include benign, premalignant, and malignant tissue biopsies as well as human tumor cell lines. Expression of the PKC β_{II} RNA transcripts were either decreased or undetectable in tissue biopsies from dysplatic nevi, metastatic melanomas, breast fibroadenomas, and breast tumors. We were also unable to detect the expression of PKC β_{II} RNA transcripts in tumor cell lines from colon, brain, breast, and hemapoietic cells. We have also analyzed the functional role of the PKC isotypes, and activity of the human PKC β promoter. Transfected cell lines could be isolated following transfection of melanoma cells with the selection vector alone or co-transfected with PKC α or β_{II} expression vectors. However, transfection of human melanoma cells with the PKC β_{II} isotype under an inducible promoter induced cell death within two weeks. We have also observed a loss in the activity of the human PKC β promoter in human melanoma cells compared to human melanocytes. These data suggest an alteration in the expression of the PKC β_{II} isotype in the transformation of human primary melanocytes, which may serve as a therapeutic target.