PKCδ ISOENZYME IS INVOLVED IN GROWTH AND ANGIOGENESIS OF PROSTATE CANCER

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Activation of different PKC isoenzymes has been shown to result in distinct cellular responses which might contribute to angiogenesis and tumor growth. Recently peptides based on the regulatory domain of the selective PKC isoenzyme and endowed with agonist and antagonist effect, have been synthetized. The scope of the study was to evaluate the potential role of the PKCδ isoenzyme in angiogenesis and growth of experimental prostate cancer.To pursue this aim a selective inhibitor of PKCδ, (δV1-1), was tested in angiogenesis in vivo (rabbit cornea assay) and on PC3 tumor grown in nude male mice. In vivo, in the rabbit cornea assay, δV1-1 inhibited VEGF-induced neovascularization. In mice, prostate cancer tissues the PKCδ translocation levels increased during tumor growth. Immunohystochemical analysis showed that PKCδ inhibitor significantly reduced markers associated with tumor growth and angiogenesis such as hypoxia inducible-1 factor (HIF-1) and CD31, while it promoted tumor cell apoptosis. These results indicate that PKCδ is involved in growth and angiogenesis of prostate cancer, and can be a potential target to design new therapeutic strategies in tumor treatment.
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