

عنوان مقاله:

Different Expression and Localization of Phosphoinositide Specific Phospholipases C in Human Osteoblasts, Osteosarcoma Cell Lines, Ewing Sarcoma and Synovial Sarcoma

محل انتشار:

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خلاصه مقاله:

Background: Bone hardness and strength depends on mineralization, which involves a complex process in which calcium phosphate, produced by bone-forming cells, was shed around the fibrous matrix. This process is strictly regulated, and a number of signal transduction systems were interested in calcium metabolism, such as the phosphoinositide (PI) pathway and related phospholipase C (PLC) enzymes. Objectives: Our aim was to search for common patterns of expression in osteoblasts, as well as in ES and SS. Methods: We analysed the PLC enzymes in human osteoblasts and osteosarcoma cell lines MG-63 and SaOS-2. We compared the obtained results to the expression of PLCs in samples of patients affected with Ewing sarcoma (ES) and synovial sarcoma (SS). Results: In osteoblasts, MG-63 cells and SaOS-2 significant differences were identified in the expression of PLC δ 4 and PLC η subfamily isoforms. Differences were also identified regarding the expression of PLCs in ES and SS. Most ES and SS did not express PLCB1, which was expressed in most osteoblasts, MG-63 and SaOS-2 cells. Conversely, PLCB2, unexpressed in the cell lines, was expressed in some ES and SS. However, PLCH1 was expressed in SaOS-2 and inconstantly expressed in osteoblasts, while it was expressed in ES and unexpressed in SS. The most relevant difference observed in ES compared to SS regarded PLC ϵ and PLC η isoforms. Conclusion: MG-63 and SaOS-2 osteosarcoma cell lines might represent an inappropriate experimental model for studies about the analysis of signal transduction in osteoblasts

کلمات کلیدی:

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