

Characterization of human bone cells in culture

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SUMMARY

Osteoblast-like cells isolated from human bone bioptic specimens were established in culture. Their osteoblast-like phenotype was studied by biochemical, histochemical and immunohistochemical methods and by electron microscopy examination.

Third-passage cell cultures exhibited high level of alkaline phosphatase activity and the exposure to human parathyroid hormone produced an increase of intracellular cAMP. Cultured cells were immunoreactive for type I and type III collagen, osteonectin, and fibronectin; when ascorbic acid and β -glycerophosphate were added, they synthesized a rich extracellular matrix. This characterization ensures the reliability of osteoblast-like cultures when they are used as experimental models.