

R-24. The Effect of Cyclosporin A on Osteoblast in vitro

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Cyclosporin A(CsA) is an immunosuppressive agent widely used for preventing graft rejecting response in organ transplantation. The basic properties of CsA to osteoblast has not been well known yet. A better understanding of the mechanisms of CsA function on bone could provide valuable information regarding basic properties of bone remodeling, pharmacotherapeutic intervention in metabolic bone disease, and the consequences of immunosuppression in bone physiology.

The purpose of this study was to investigate the effect of CsA on osteoblast by evaluating parameters of proliferation, collagen synthetic activity, alkaline phosphatase activity, and ALP mRNA expression in mouse calvarial cell.

1. CsA(3 $\mu\text{g/ml}$) treated mouse calvarial cell showed statistically significant increase in cell proliferation. (P < 0.05)
2. CsA(1, 3 $\mu\text{g/ml}$) treated MC3T3 cell line showed statistically significant increase in cell proliferation.
3. The amount of collagen of CsA(3 $\mu\text{g/ml}$) treated mouse calvarial cell was decreased statistically significantly.
4. Alkaline phosphatase activity was increased statistically significantly in CsA treated group(1 $\mu\text{g/ml}$).
5. mRNA expression of ALP was increased in CsA treated group

These results suggest that CsA could affect bone remodeling by modulating proliferation & differentiation of osteoblast.