

P25 **Taurine Activates ERK2 and Induces the Production
of Nitric Oxide in Osteoblast-like UMR-106 Cells**

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In the present study, we have demonstrated that taurine could stimulate the production of nitric oxide and the activity of ERK2 (extracellular signal regulated protein kinase or pp42 MAP kinase). Nitric oxide(NO), the product of inducible nitric oxide synthase(iNOS), is known to be implicated in the metabolism of bone. ERK cascade plays a key role in the gene expression of iNOS in osteoblastic cell. We investigated whether taurine (1-20mM) could stimulate ERK2 activity, nitric oxide production, and inducible nitric oxide synthase in osteoblast-like UMR-106 cells. Nitric oxide was measured spectrophotometrically as nitrite and the activation of ERK2 and iNOS was studied using Western blot analysis. Taurine increased the production of nitric oxide in a dose-dependent manner and the effect was reached to a maximum at 10 mM. The activation of iNOS were consistent with NO levels. The tyrosine phosphorylation of ERK2 was increased by taurine in a time-dependent manner. The these result suggest that taurine might stimulate the production of nitric oxide in osteoblast-like cells by the activation of ERK2 and could regulate the metabolism of bone via nitric oxide.