



# بیست و یکمین کنگره بین المللی فیزیولوژی و فارماکولوژی ایران

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Title :	Down-regulation of matrix metalloproteinase-2 activity in a fibrosarcoma cell line by a beta blocker
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Abstract :	<p>Background: Beta-adrenergic blocking agents have been largely used for treatment of many cardiovascular diseases such as arterial hypertension and ischemic heart failure. Anti-tumoral effects of propranolol (a non selective beta-adrenergic blocker) have been shown. Matrix metalloproteinases (MMPs) are a large family of enzymes which have important role in degradation of extracellular matrix and play a substantial role in tumor invasion and metastasis.</p> <p>Objective: In this study we investigated the effects of propranolol on MMP-2 activity in WEHI-164 fibrosarcoma cell line in vitro.</p> <p>Methods: WEHI-164 fibrosarcoma cells were used in this study. The cells were cultured in complete RPMI medium and then incubated with different concentrations of propranolol (0.3 30 <math>\mu</math>M) for 24 hours. The matrix metalloproteinase-2 (MMP-2) activity in cell-conditioned media was evaluated by gelatin zymography.</p> <p>Results: Propranolol significantly decreased matrix metalloproteinase-2 activity in WEHI-164 fibrosarcoma cells dose dependently. This decrease was shown at 30 <math>\mu</math>M concentration of the drug compared to untreated control cells.</p> <p>Conclusion: Propranolol might be a useful anti-MMP agent. Thus the anti-tumoral effects of propranolol may be in part due to its inhibitory effect on MMP activity. Propranolol could have potential implication in treatment of MMP- related disorders.</p>
Keywords :	Beta blocker, MMP-2, fibrosarcoma