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## INHIBITION OF GELATINASE B ACTIVITY IN PBMCs BY A MINT EXTRACT

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**Introduction:** Gelatinase B [matrix metalloproteinase-9 (MMP-9)] plays an important role in several inflammatory diseases. The mint family has been widely used as medicinal plants in treatment of a number of disorders such as common cold and bronchitis. *Mentha piperita* is a mint species with well-known anti-inflammatory effects. In the present study, the effect of aqueous extract of *Mentha piperita* on MMP-9 activity in human peripheral blood mononuclear cells (PBMCs) has been assessed *in vitro*.

**Methods:** Human PBMCs were cultured in complete RPMI medium. The cells were then incubated with different concentrations of aqueous extract of *Mentha piperita* leaves (0.01-10 mg/ml) in triplicate for 24 hours. The gelatinolytic activity of MMP-9 in culture supernatant was evaluated by zymography.

**Results:** *Mentha piperita* extract significantly decreased MMP-9 activity in human PBMCs, dose-dependently compared to untreated control cells.

**Conclusions:** The results of this study showed that *Mentha piperita* extract down-regulates the activity of MMP-9 in human PBMCs. Regarding the important role of MMP-9 in inflammation, the anti-inflammatory effect of *Mentha piperita* may be in part due to its inhibitory effect on MMP-9 activity.

**Why is this paper novel?** Natural products are rich sources of therapeutics and so have potential implication for the development of novel drugs