

Other

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was  $12.3 \pm 1.59$ , in intratumoral areas was  $4.7 \pm 0.85$  and in BPH it was  $14.86 \pm 1.56$ . Intratumoral mast cell numbers were less than extratumoral areas ( $p=0$ ) and less than BPH ( $p=0$ ), but there was no statistically significant difference between extratumoral mast cells and BPH ( $p=0.12$ ). Mean number of intratumoral and extratumoral mast cells in Gleason's score  $\leq 7$  was greater than for Gleason's scores more than 7 ( $p=0.006$  and  $p=0.05$  respectively). Mast cell infiltration was not related to age of patients, vascular invasion and perineural invasion.

**Conclusion:** In Our study the age range and Gleason's scores were higher than similar studies which indicates the need for screening methods of prostate cancer. Several studies showed different results such as positive correlation of mast cell numbers with Gleason's score, no relationship between them, negative and positive relationships between mast cell numbers and small vessel density, and favorable and poor prognoses of prostate cancer in high mast cell numbers. So, it is concluded that before using mast cells as treatment targets, further studies are needed to prove their exact roles in tumor progression or inhibition.

**Keywords:** Mast cell, Prostate adenocarcinoma, Benign prostatic hyperplasia, Gleason's grading

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Poster Presentation

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**Down-regulation of matrix metalloproteinase-9 activity by spearmint in a human monocytic cell line**

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**Objective:** Spearmint is a medicinal plant with antioxidant and anti-inflammatory activities. MMP-9 (matrix metalloproteinase-9) is an enzyme degrades the extracellular matrix and has an essential role in airway inflammation and inhibition of lung tissue repair in asthma. In this study effect of spearmint aqueous extract on MMP-9 activity in human immunocompetent cells has been evaluated in vitro.

**Materials and methods:** Human monocytic THP1 cells were cultured in complete RPMI medium. Next the cells at logarithmic growth phase were incubated with different concentrations of spearmint aqueous extract (0.05 – 10 mg/ml) in the

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presence of PMA (phorbol 12-myristate 13-acetate) for 48 hours. Then the culture supernates were collected and MMP-9 activity was assessed by gelatin zymography.

**Results:** Spearmint aqueous extract significantly decreased MMP-9 activity in PMA-stimulated THP1 monocytic cells dose-dependently.

**Conclusions:** Our results showed that spearmint aqueous extract down-regulates MMP-9 activity in human monocytic THP1 cells. Regarding that MMP-9 is an inflammatory mediator, inhibitory effect of spearmint on pulmonary inflammation and damage may be partially due to its suppressive effect on MMP-9 activity. Furthermore, as MMP-9 has an inhibitory effect on tissue repair, spearmint with suppressive effect on MMP-9 may be useful in bronchial tissue repair and so a therapeutic candidate for asthma in which MMP-9 is overexpressed. Additional studies on the effect of locally exposure of spearmint on MMP-activity in immunocompetent cells are required.

**Keywords:** Spearmint, MMP-9, THP1 cells

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Poster Presentation

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**The level of miR-146a and miR-155 in PBMCs of SLE patients are significantly higher than healthy control**

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**Objective:** Systemic Lupus Erythematosus (SLE) is a multi-organ autoimmune disease characterized generation of autoantibodies to components of the cell nucleus. SLE typically involve women in childbearing age. The pathogenesis of SLE is contributed by together genetic factors and epigenetic modifications that arise from disposal to the environment. Epigenetic factors such as modifications of