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MAEKMOONDONG-TANG ATTENUATES LPS-INDUCED PULMONARY FIBROSIS IN SMALL AIRWAY VIA TGF- β , CCL-2 AND CXCL1

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Chronic obstructive pulmonary disease (COPD) is one of the top 10 death causes in the worldwide and especially the old are more severe than the young. From Dongui Bogam a lot of prescriptions have been used for the respiratory disease and Maekmoondong-tang is one of them. Maekmoondong-tang consists of several herbs such as *Glycyrrhizae radix*, *Oryza sativa*, *Zizyphus jujube inermis*, *Ophiopogon japonicas*, *Pinellia ternate*, *Panax ginseng*, and so on. In this study the therapeutic effect of Maekmoondong-tang against COPD was evaluated by the populations of WBCs and differential counts in BALF, IgE in serum, histopathological changes in the lung such as inflammatory cell infiltration, fibrosis, etc., the changes of cytokine/chemokine in the lung such as TGF- β , CCL-2, CXCL1 and CXCL11. In LPS-induced mouse model Maekmoondong-tang dose-dependently attenuated the numbers of WBC and neutrophil in BALF, IgE in serum, inflammatory cell infiltration and fibrosis, cytokine/chemokine in the lung. Maekmoondong-tang effectively suppressed the typical changes-related with COPD such as the populations of WBC and neutrophil in BALF, the level of IgE in serum, morphological changes (mucous hypersecretion, inflammatory cell infiltration, alveolar wall destruction, and fibrosis), the DNA levels of cytokine/chemokine (TGF- β , CCL-2, CXCL1, and CXCL11) and the protein expressions of cytokine/chemokine (TGF- β , CCL-2, CXCL1, and CXCL11) in the pulmonary system. One cytokine (TGF- β) and two chemokine (CCL-2 and CXCL1) were significantly suppressed by 1500 mg/kg Maekmoondong-tang treatment compared to Spiriva treatment. From the results we concluded that Maekmoondong-tang should be the effective traditional prescription.

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