**Title:** Relevance of measurement of serum periostin for diagnosing bronchial asthma and estimating its lung function abnormalities

**Body:** Bronchial asthma is diagnosed by combination of presence of characteristic symptoms and measurement of reversibility of lung function abnormalities. Non-invasive markers such as levels of exhaled nitric oxide (FeNO) and sputum eosinophilia have potential usefulness for diagnosis of bronchial asthma and determination of optimal treatment; however, these biomarkers contain several problems in specificity in diseases. Periostin, an extracellular matrix protein downstream of IL-4/IL-13 signals, has emerged as a novel biomarker for bronchial asthma. Particularly, it has been recently shown that efficacy of anti-IL-13 antibody can be predicted using serum periostin levels in steroid-resistant asthma patients. However, it still remains undetermined how measurement of serum periostin level is relevant for diagnosing bronchial asthma. The study group comprised 37 patients with asthma and 30 healthy subjects. In both groups, serum concentrations of SCCA1, SCCA2, periostin (SS18A SS17B) were measured. In asthmatic patients, serum IgE concentrations, eosinophil counts, and exhaled NO levels were also measured. Serum concentrations of periostin (SS18A SS17B) was significantly higher in the asthmatic patients than in the control subjects. Serum concentrations of both types of periostin strongly correlated with eosinophil counts and exhaled NO levels. In contrast, serum SCCA concentrations did not differ between the control subjects and asthmatic patients or significantly correlate with any variable studied. Our results suggested that serum periostin concentrations may be a significant diagnostic marker of bronchial asthma that correlates with eosinophil counts.