

### **Supplementary Table 1. Statistical analysis**

For statistical analysis, IBM SPSS Statistics ver. 25.0 (IBM Co., Armonk, NY, USA) was used. Serum ECP data did not follow normal distribution, and The Wilcoxon Signed Rank test was used to determine whether serum ECP in our subjects were statistically different from the reference value suggested by IMMULITE 2000 Systems Operator's Manual (24 ng/mL). The chi-square test or Fisher's exact test was used to compare categorical variables between 2 groups. When comparing continuous variables with normal distribution between 2 groups, Student t-test was used and the data were expressed as means and standard deviations. Mann-Whitney U-test was used for non-normally distributed data that were expressed as medians and interquartile ranges (IQRs). Pearson correlation analysis was used to evaluate the relationship of serum ECP levels with the parameters of PFT, concentrations of methacholine causing a 20% drop in FEV1 (methacholine PC (20)), total serum IgE, FeNO levels, and blood eosinophil counts. Data that were not normally distributed were logarithmically transformed before analyses. Kruskal-Wallis test was used to compare variables among 3 groups. The confidence of interval (CI) was set to 95% and P value less than 0.05 was considered statistically significant.