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Title: MUC5B promoter polymorphism is significantly associated with idiopathic interstitial pneumonia in German but not in Japanese patients

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Body: Backgrounds: Mucin 5B (MUC5B) is secreted from the bronchial glands and plays an important role in airway defense. A single nucleotide polymorphism (SNP) rs35705950 in the promoter of MUC5B has been reported to be associated with idiopathic pulmonary fibrosis (IPF). However, the association between this SNP and other types of idiopathic interstitial pneumonia, such as nonspecific interstitial pneumonia (NSIP), is still unknown. Furthermore, previous data have been obtained mainly from Caucasian cohorts, and validation data with Asian patients are limited. Aim: To compare the association between rs35705950 and IPF and/or NSIP in German and Japanese cohorts. Methods: DNA was extracted from blood samples in 137 German and 355 Japanese subjects, and rs35705950 was detected by commercially available SNP genotyping assay. Results: In the German cohort, the frequency of the rs35705950 T allele was significantly higher in patients with IPF (frequency = 0.331, $P < 0.001$) or NSIP (frequency = 0.274, $P < 0.001$) than in healthy subjects (HS, frequency = 0.043). In the Japanese cohort, the frequency of the rs35705950 T allele tended to be higher in patients with IPF than in HS ($P = 0.068$), but the patients with NSIP and the HS did not differ in this regard. The frequencies of the rs35705950 T allele in Japanese HS and patients with IPF or NSIP were significantly lower than those in German HS and patients with IPF or NSIP, respectively ($P = 0.046$, $P < 0.001$, and $P < 0.001$, respectively). Conclusions: The results suggest that the MUC5B promoter polymorphism is associated with both NSIP and IPF in German patients, but only a tendency is noted in Japanese IPF patients.