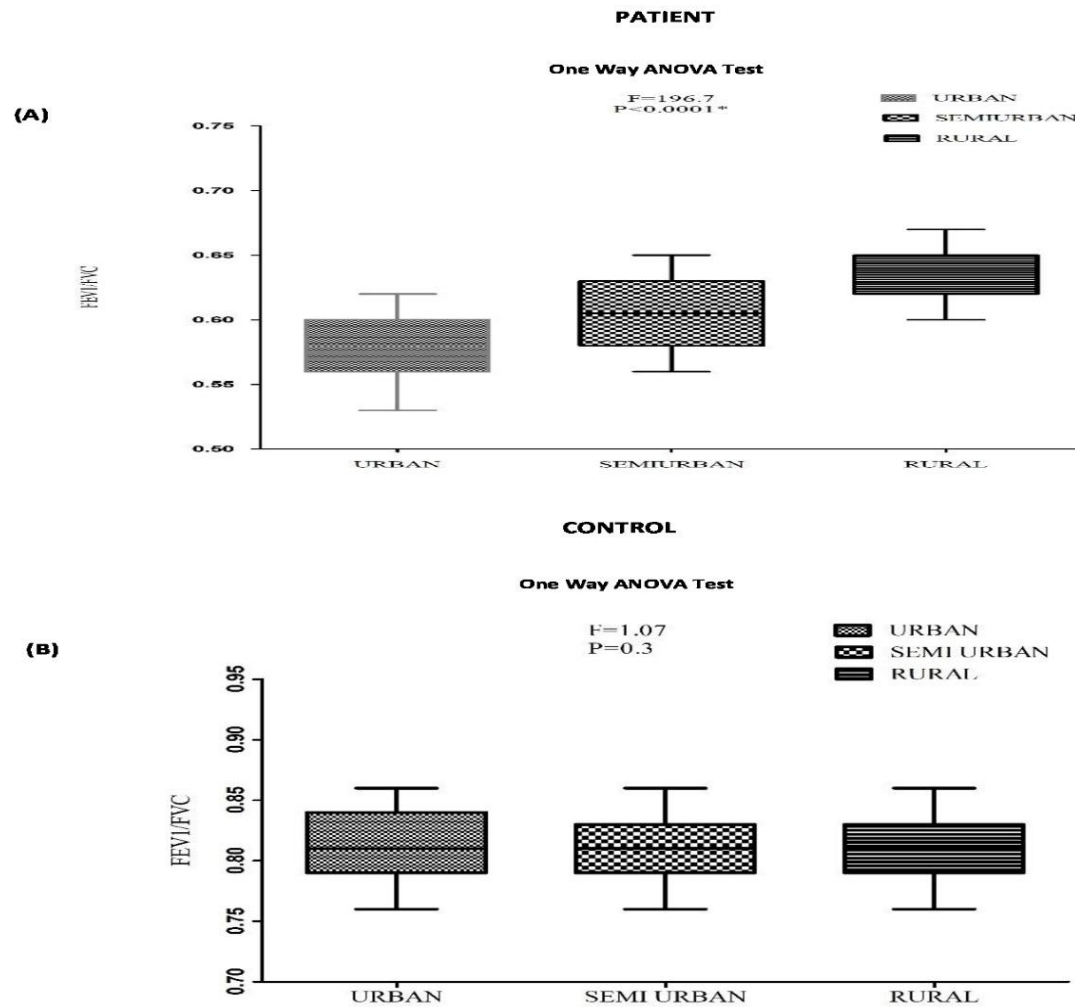
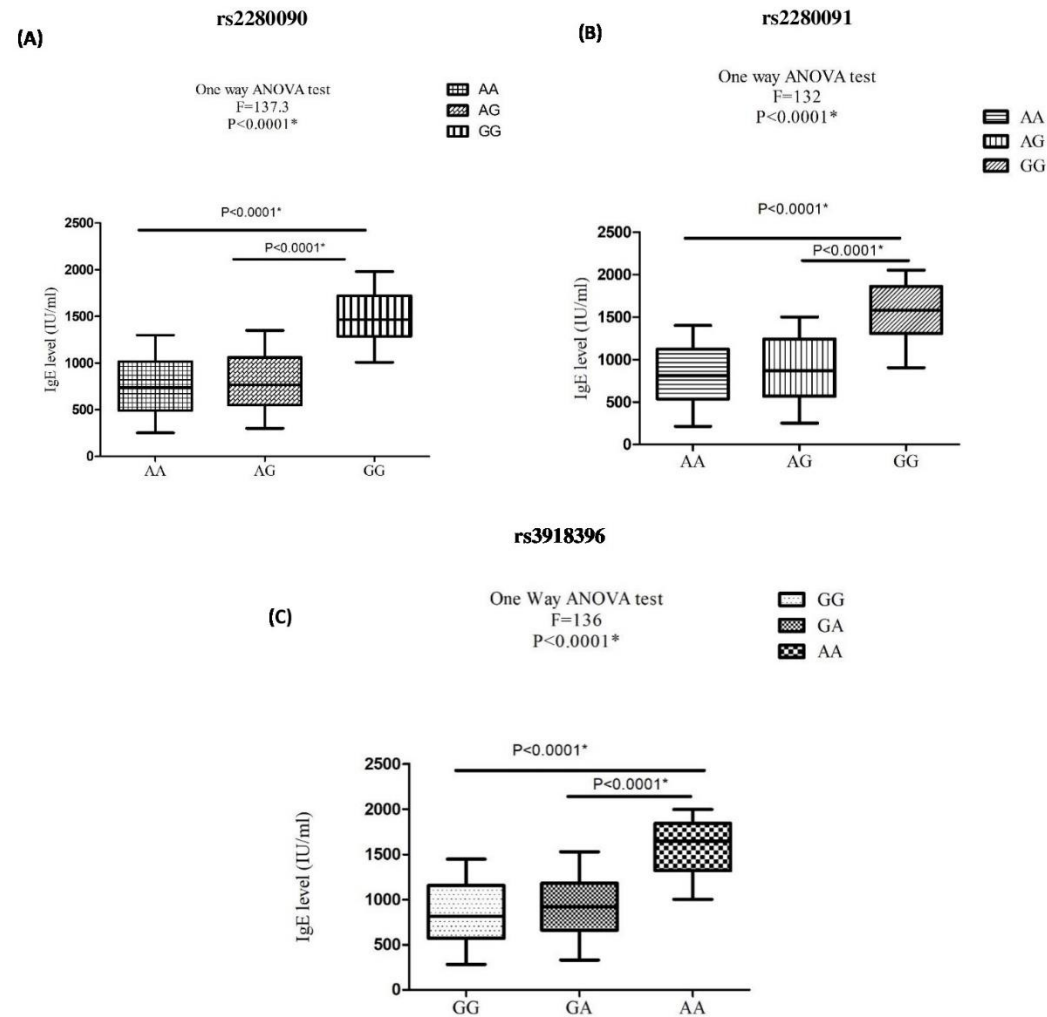


Supplemental Table 1: Cellular localization and function of proteins associated with ADAM33

Proteins	Cellular localization	Role in asthma	References
PACSIN-2	Cytoplasmic	Involved in linking the actin cytoskeleton	Dumont et al., 2022 [1]
CDH 11 (CADHERIN 11)	Integral membrane protein	Type 2 classical cadherin protein associated with airway remodelling	Chen et al., 2021[2]
PPFIA1	Cytoplasmic	Associated with regulation of focal adhesions	Serra-Pagès et al., 1995[3]
FCER1A	Membrane protein	It is an initiator of allergic response regulates histamine is released.	Weidinger et al., 2008[4]
PHF11 (PHD finger protein 11)	Cytoplasmic and Nuclear localization	Asthma candidate gene. Positive regulator of Th1-type cytokine gene expression.	Clarke et al., 2008[5]
NPSR1 (Neuropeptide S receptor 1)	Membrane protein.	G-protein coupled receptor associated with Neuropeptide S. Regulate intracellular Ca ²⁺ storage, associated with asthma.	Vendelin et al., 2005[6]
ORMDL-3 (ORMDL sphingolipid biosynthesis 3)	Endoplasmic reticulum membrane	Negative regulator of sphingolipid synthesis may indirectly regulate ER mediated Ca ²⁺ signalling.	Recasens et al., 2010[7]
DPP 10 (Dipeptidyl peptidase like 10)	Single pass type 2 membrane protein.	Mutation of this gene have been associated with asthma. Human airway epithelial cells with knockdown of DPP10 exhibit altered cytokine responses.	Zhang et al., 2018[8]
GSDMB (GASDERMIN B)	Membrane protein	Airway hyper responsiveness and remodelling. Associated with epithelial cell pyroptosis.	Panganiban et al., 2018[9]
FCER1A	Membrane protein	Binds to the Fc region of immunoglobulin, accountable for allergic reaction.	Sanak et al., 2009[10]
WASL	Cytoplasmic protein	involved in actin nucleation by boosting ARP2/3 complex	May RC, 2001[11]

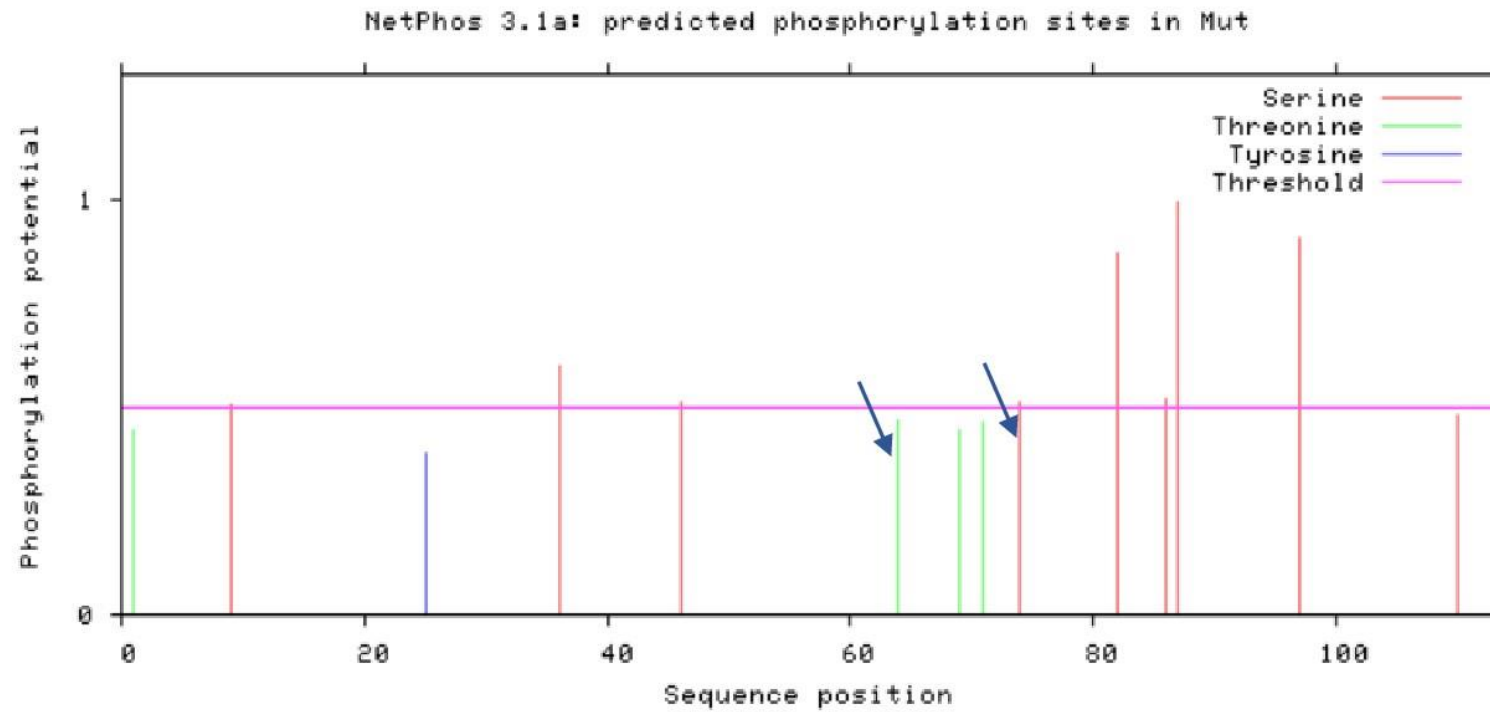


Supplemental Figure 1: Level of FEV₁/FVC ratio in (A) asthmatic patients and (B) controls residing in different habitats. One Way ANOVA test showed a significant difference in FEV₁/FVC ratio in patients residing in different habitats (urban, semiurban and rural). (*P value significant).



Supplemental Figure 2: IgE levels (IU/ml) in asthmatic patients bearing different polymorphic genotypes of ADAM33 (A) rs2280090

(B) rs2280091 (C) rs3918396 polymorphisms. One-Way ANOVA test showed that patients bearing risk genotype showed highest IgE level than heterozygous and major genotype bearers in all three polymorphisms (*P value significant).



Supplemental Figure 3: Predicted phosphorylated amino acids. The amino acids at the transmembrane and cytoplasmic domain predicted to be phosphorylated. First amino acid at the transmembrane domain is numbered as amino acid number 1. Met764Thr and Pro774Ser are denoted with blue arrows.

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