Contents

List of Tables 1

List of Illustrations 3

Section I: Review of Literature on Asthma and ADAM33 5

Section II: Patterns of inheritance of asthma and association of ADAM33 SNPs with asthma patients

Introduction 24
Materials and Methods 27
Observations 42
Discussion 86

Section III: Molecular interaction network and pathway analysis of ADAM33, and Copy Number Variation analysis of asthma associated genes

Introduction 99
Materials and Methods 102
Observations 110
Discussion 140

Section IV: Summary 162

Section V: References 167

Appendices
1. Chemicals and reagents used 188
2. Abbreviations 189
3. List of publications 193