

LIST OF FIGURES

Sr. No.	Title	Page No.
Chapter 1	Introduction	
Figure 1	Interplay of genes, environment (ROS generation) and immune system in precipitation of Vitiligo	2
Figure 2	Clinical types of vitiligo	5
Figure 3	A diagrammatical cross-section of human skin	6
Figure 4	Migration of melanocytes from the neural crest	7
Figure 5	Epidermal Melanin unit	8
Figure 6	Structure of melanosome	9
Figure 7	The melanin biosynthetic pathway	11
Figure 8	The events that support the neurochemical pathogenesis of vitiligo	15
Figure 9	Intracellular generation of ROS	18
Figure 10	Genomic organization of the three known members of the human <i>SOD</i> family	32
Figure 11	Possible cellular and humoral immune mechanisms in vitiligo	45
Figure 12	Different pathways for melanocyte destruction	49
Figure 13	Mechanism of action of TNF α	52
Figure 14	<i>HLA</i> region on chromosome 6q21	56
Figure 15	<i>TNFA</i> gene structure and known polymorphisms	57
Chapter 2	Role of superoxide dismutase 1 (SOD1) in vitiligo susceptibility	
Figure 1	Lipid peroxidation (LPO) levels in controls and vitiligo patients	144
Figure 2	SOD1 activity in controls and vitiligo patients	145
Figure 3	Relative gene expression of <i>SOD1</i> in controls and vitiligo patients	147
Figure 4	Western blot analysis of erythrocyte SOD1 and GAPDH protein	148
Figure 5	Densitometric analysis of SOD1 and GAPDH protein levels in controls and vitiligo patients	149
Figure 6	PCR-RFLP analysis of <i>SOD1</i> C/T (Ile40Thr) polymorphism	150
Figure 7	HRM analysis of <i>SOD1</i> gene in vitiligo patients and controls	154
Figure 8	Representative <i>BLAST</i> analysis for <i>SOD1</i> sequence	155
Chapter 3	Role of superoxide dismutase 2 (SOD2) in vitiligo susceptibility	
Figure 1	PCR-RFLP analysis of <i>SOD2</i> C/T (Leu84Phe) and C/T (Thr58Ile) polymorphisms	174

Figure 2	TaqMan end point fluorescence analysis for <i>SOD2</i> Val16Ala (T/C)	176
Figure 3	Relative gene expression of <i>SOD2</i> in controls and vitiligo patients	183
Figure 4	<i>SOD2</i> specific activity in controls and vitiligo patients	185
Chapter 4	Role of superoxide dismutase 3 (SOD3) in vitiligo susceptibility	
Figure 1	PCR-RFLP analysis of <i>SOD3</i> C/G (Arg213Gly) and G/A (Ala40Thr) polymorphism	208
Figure 2	Relative gene expression of <i>SOD3</i> in controls and vitiligo patients	213
Figure 3	<i>SOD3</i> activity in controls and vitiligo patients	215
Chapter 5	Evaluation of oxidative stress and autoimmune hypotheses in onset and progression of vitiligo	
Figure 1	Lipid peroxidation (LPO) and antimelanocyte antibody levels in controls and vitiligo patients	227
Figure 2	Lipid peroxidation (LPO) and antimelanocyte antibody levels with respect to onset and progression of disease	228
Chapter 6	Role of tumor necrosis factor α (TNFα) in vitiligo susceptibility	
Figure 1	PCR-RFLP analysis of <i>TNFA</i> promoter polymorphisms	241
Figure 2	Linkage disequilibrium (D') among <i>TNFA</i> promoter SNPs in generalized and localized vitiligo patients	246
Figure 3	Age of onset of the disease in vitiligo patients	250
Figure 4	Relative gene expression of <i>TNFA</i> in controls and vitiligo patients	252
Figure 5	Serum TNF α levels in controls and vitiligo patients	254
Figure 6	Relative gene expression of <i>ICAM1</i> in controls and vitiligo patients	256
Chapter 7	Role of tumor necrosis factor-β (TNFβ) in vitiligo susceptibility	
Figure 1	PCR-RFLP analysis of <i>TNFB</i> +252G/A polymorphism	276
Figure 2	TaqMan end point fluorescence analysis for <i>TNFB</i> A/C; (Thr26Asn) using dual color hydrolysis probes	281
Figure 3	Age of onset of the disease in vitiligo patients	283
Figure 4	Relative gene expression of <i>TNFB</i> in controls and vitiligo patients	288
Figure 5	Melt curve analysis of <i>TNFB</i> and <i>GAPDH</i> showing specific amplification	289