OBJECTIVES:

(1) Isolation and culture establishment of primary normal human melanocytes from epidermal human skin.

(2) To study the transcript levels of the immune regulator genes: *TNFA, IL1A, IL1B, IL4, IL6, IL10, IL1R1*, *IL1RN* and *IFNG* in vitiliginous and control skin.

(3) To study the dose dependent effect of the interleukins: TNF-α, IL-1α, IL-6 and IL-10 on *in vitro* cultured melanocyte cell death, expression of melanin synthesis genes and immunoregulatory genes.

(4) Effect of receptor activation of TNFR1, IL1R1, IL6R and IL10R upon treatment of TNF-α, IL-1α, IL-6 and IL-10 respectively on *in vitro* cultured melanocytes.

(5) To study the role of PARP upon H_2O_2 stimulation of *in vitro* cultured melanocytes.

(6) Genotyping of candidate genes: *IL1RN* intron *2* VNTR, *IL6* and *IL10* in vitiligo patients and controls from Gujarat population with possible genotype-phenotype correlation.