

CHAPTER IV

RESULTS

1. CCR2-64I allele frequency

The genotype of 200 samples was determined for CCR2-64I mutation by PCR-RFLP as described in Chapter III. One hundred and forty-one (70.5%) wild type, fifty-five (27.5%) heterozygous and four (2%) homozygous were identified (Shown in table VII and Figure V). The allele frequency in this population was 0.1575 and in agreement with Hardy-Weinberg equilibrium (HW) with (the 95 % confidence interval [CI]; 0.1070-0.2079) in Table VII. Typical result by PCR RFLP of the CCR2-64I genotyping is presented in Figure IV.

2. SDF1-3'A allele frequency

Among 200 individuals in whom the genotype of the SDF1-3'A mutation was determined, 94 (47%) were wild type, 79 (39.5%) were heterozygous, and 27 (13.5%) were homozygous, giving the frequency of the SDF1-3'A allele in this population as 0.3325 (Table VII and Figure VII). This distribution of genotypes was in agreement with Hardy-Weinberg equilibrium (with 95% CI; 0.2678-0.3972). A typical result by PCR RFLP of the SDF1-3'A genotyping is presented in Figure VI.

Table VII. Frequency of CCR2-64I and SDF1-3'A in Thai population.

	Number of	Number of	Number of	Number of	Allele
Mutation	Subjects	Wild type	Heterozygotes	Homozygotes	frequencies
CCR2-64I	200	141	55	4	0.1575 (0.1070-0.2079) ^a
SDF1-3'A	200	94	79	27	0.3325 (0.2678-0.3972) ^a

^a95% confidence interval**3. Linkage disequilibrium**

The genotypes of the CCR2 and SDF-1 loci were compared in individuals. Of the 200 subjects examined, 69 were not mutated for both genotypes, 97 subjects had one mutation, and 34 subjects were mutated both genotype. The data are shown in Table VIII.

Table VIII Comparison between CCR264I and SDF1-3'A genotype

CCR2 genotype	SDF-1 genotype			Total
	SDF1-w/w	SDF1-3'A/w	SDF1-3'A/3'A	
CCR2-w/w	69 (34.5%)	55 (27.5%)	17 (8.5%)	141
CCR2-64I/w	23 (11.5%)	22 (11%)	10 (5%)	55
CCR2-64I/64I	2 (1%)	21 (1%)	0 (0%)	4
Total	94	79	27	200

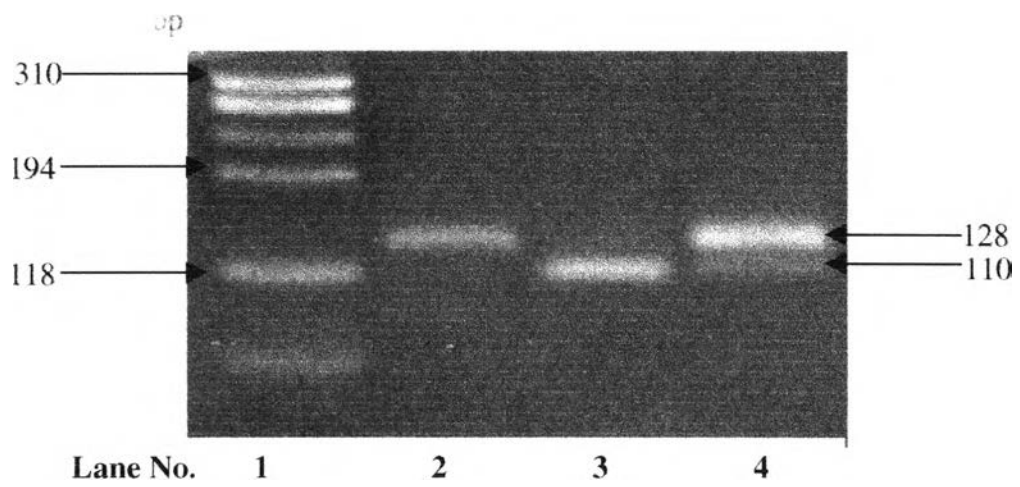


Figure IV PCR-RFLP pattern of CCR2-64I genotype analysis

Lane 1 = marker phi X 174

Lane 2 = CCR2 Wild Type

Lane 3 = CCR2-64I homozygous mutation

Lane 4 = CCR2-64I heterozygous mutation

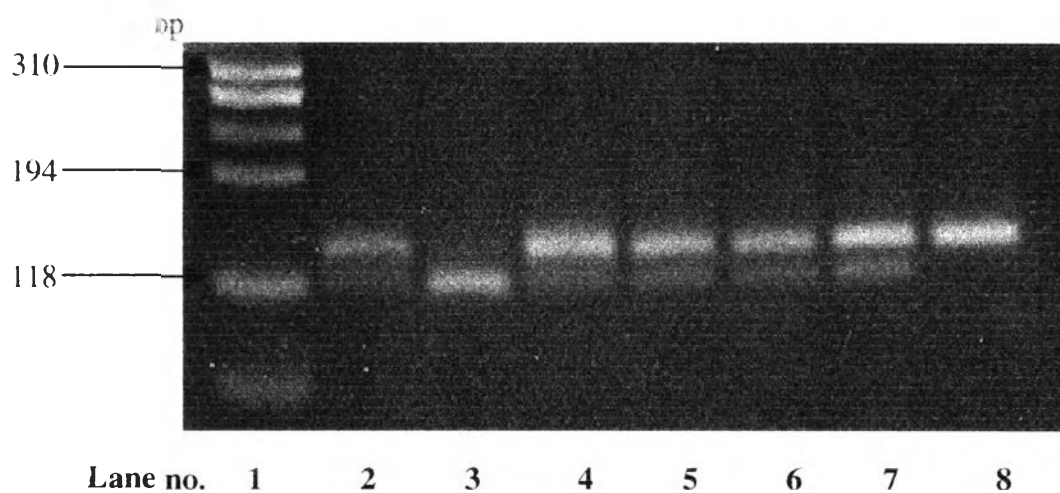


Figure V Analysis of CCR2-64I polymorphism in samples No. 173 - 178

Lane No.1 = Marker phi X 174

Lane No.2 = Sample No.173 Heterozygous

Lane No.3 = Sample No.174 Homozygous

Lane No.4 = Sample No.175 Heterozygous

Lane No.5 = Sample No.176 Heterozygous

Lane No.6 = Sample No.177 Heterozygous

Lane No.7 = Sample No.177 Heterozygous

Lane No.8 = Sample No.178 Wild type

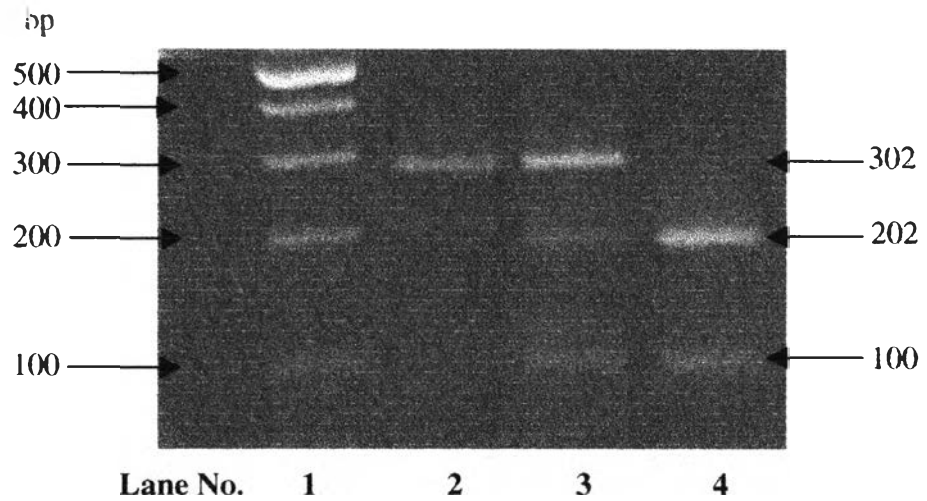


Figure VI PCR-RFLP pattern of SDF-3'A genotype analysis

Lane 1 = marker 100 bp DNA ladder

Lane 2 = SDF1-3A homozygous mutation

Lane 3 = SDF1-3'A heterozygous mutation

Lane 4 = SDF1-3'A wild type

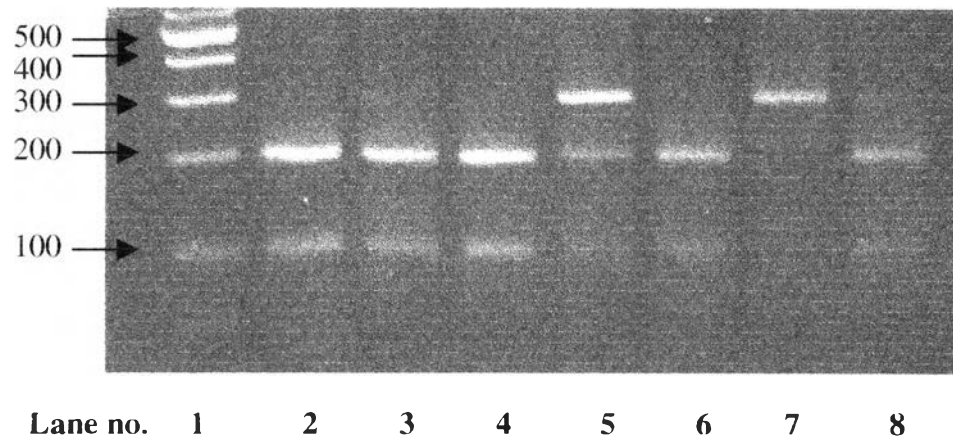


Figure VII Analysis of SDF1-3'A polymorphism in samples No. 1 - 7

- Lane No.1 = Marker 100 bp DNA ladder
- Lane No.2 = Sample No.1 Wild type
- Lane No.3 = Sample No.2 Wild type
- Lane No.4 = Sample No.3 Wild type
- Lane No.5 = Sample No.4 Heterozygous
- Lane No.6 = Sample No.5 Wild type
- Lane No.7 = Sample No.6 Homozygous
- Lane No.8 = Sample No.7 Wild type

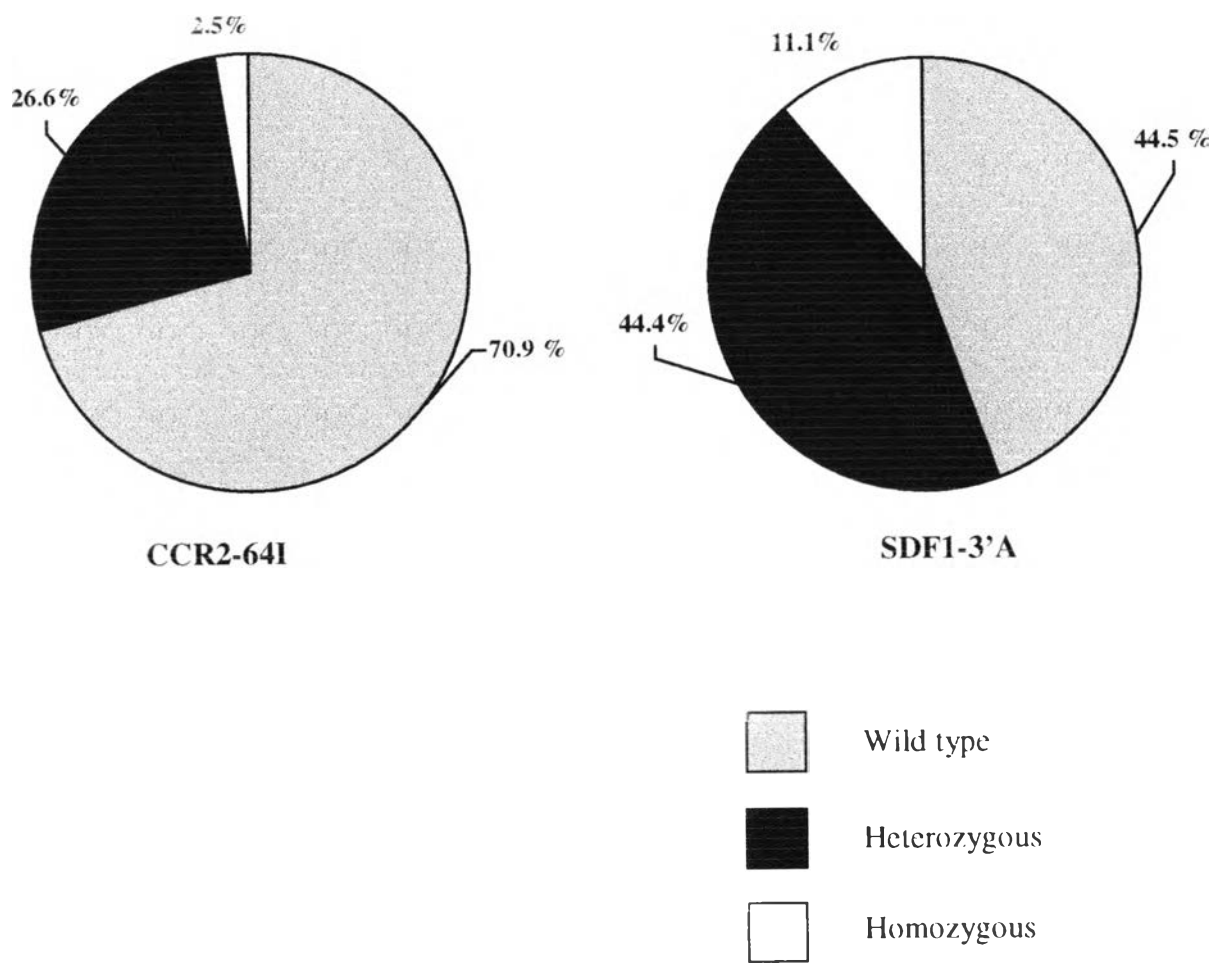


Figure VII. Percent of CCR2-64I and SDF1-3' A polymorphism