

Allele Frequency of *HLA-B* Database in 4 Regions of Thailand

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Statement of the Problem: HLA plays a significant role in our immune system and is directed by genes on the 6th chromosome. In previous studies, we found the distribution of *HLA-B* alleles that has an association with pharmacogenetics markers in different ethnic groups. The aim of this study is to explore the distribution of *HLA-B* alleles in 4 regions of Thailand

Methodology & Theoretical Orientation: Unrelated 200 healthy Thai population were collected for *HLA-B* genes. *HLA-B* genotyping was carried out using the polymerase chain reaction-sequence specific oligonucleotides probe system (PCR-SSO)

Findings: The most commonly *HLA-B* allele found in Thailand was *HLA-B**46:01 consists of Northern (19%), Central (21%), Northeastern (16%) whereas, *HLA-B**15:02 was the most frequent allele in Southern of Thailand. This study found that 5% of Northern, 10% of Central and 8% of Northeastern Thai subjects carries *HLA-B**15:02 allele which has been related with carbamazepine-induced severe cutaneous adverse drug reactions (SCARs). Furthermore, Northern, Central, Northeastern and Southern healthy Thai subjects carry *HLA-B**13:01 allele was 7%, 9%, 4% and 5%, respectively. *HLA-B**13:01 was strongly associated with dapsone-induced SCARs in Asians. The frequency of *HLA-B**58:01 was 4% of Northern, 7% of Central, 11% of Northeastern and 4% of Southern, which associated with allopurinol-induced SCARs.

Conclusion & Significance: When compared *HLA-B* alleles frequency from 4 regions of Thailand, we found similar *HLA-B* distribution among Northern, Central and Northeastern except Southern. Consequently, the frequency of *HLA-B* gene database in 4 regions of Thailand influenced on pharmacogenetics markers distribution and contributes to screening tests before initiating treatment in Thai population.

Biography

Cindy Shainwald is currently studying in senior year in high school at Maryvit Sattahip School in Thailand. She has always been fascinated with science and the components of the human body. Her goal is to pursue a medical degree and become a doctor in the near future. In order to obtain experiences, explore answers and build a better understanding of medical procedures, She has participated in this research project which involves collecting *HLA-B* Database from individuals DNA through different lab processes to gain a greater perception on *HLA-B* alleles that has an association with pharmacogenetics markers and the significance of undergoing the medical model of precision medicine in Thai population.