

Distribution of *HLA-B*13:01* allele related with dapson-induced severe cutaneous adverse reaction in Thai and Asian population

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ABSTRACT

Background:

Dapsone is antibiotic and anti-inflammatory which is widely used for treatment such as leprosy. However, dapson cause severe cutaneous adverse reactions (SCARs) include Stevens–Johnson syndrome (SJS), toxic epidermal necrolysis (TEN) and drug rash with eosinophilia and systemic symptoms (DRESS), approximately 0.5-3.6% of patients treated with dapson and 9.9% mortality rate. From the previous studies, only *HLA-B*13:01* allele has a strongly association with dapson-induced SCARs in Asian population. Moreover, the distribution of *HLA* alleles that play important roles in predicting adverse drug reactions in each population.

Objective:

Thus, this study was to investigate the distribution of *HLA-B*13:01* allele in Thai and Asian population and importance of this pharmacogenetics marker.

Materials and Methods:

We recruited 200 unrelated healthy Thai individuals in this study. *HLA-B* were genotyped using sequence-specific oligonucleotides (PCR-SSOs).

Results:

We found *HLA-B* alleles frequencies in Thai population consist of *HLA-B*46:01* (11.75%), *HLA-B*15:02* (9.25%), *HLA-B*13:01* (6.25%), *HLA-B*4001* (6.25%), and *HLA-B*38:02* (5.50%). For *HLA-B*, *HLA-B*46:01* was the predominant allele commonly found in Thais. This study showed that the frequency of *HLA-B*13:01* allele was similar to the previous study in Thai population. Many publications presented varying distributions of *HLA-B*13:01* in Asians including 9.15% of Han Chinese, 6.67% of Japanese and 5.94% of Vietnamese.

Conclusion:

Therefore, database of pharmacogenomics containing distribution of *HLA-B*13:01* alleles will support the screening of dapson-induced SCARs in Thai and Asian population.

KEYWORDS: *HLA-B*13:01*, alleles frequency, Dapsone-induced SCARs, Thai population