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## **Association of Nucleotide Polymorphisms of Arachidonate Pathway Genes with Aspirin Hypersensitivity of Asthma**

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Aspirin-intolerant asthma (AIA) refers to the development of bronchoconstriction in asthmatic individuals following the ingestion of aspirin and other nonsteroidal anti-inflammatory drugs (NSAIDs). This syndrome affects about 5-10% of adult asthmatics with characteristics of aspirin hypersensitivity and chronic rhinosinusitis with nasal polyposis. Although the pathogenesis of AIA is not completely elucidated, a two-compartment model may be proposed in which there is both augmentation of cysteinyl leukotriene (CysLT)s production and overexpression of the CysLT receptor on inflammatory cells within the respiratory tract. The genetic effects of key synthetic enzymes, such as leukotriene C4 synthase, 5-lipoxygenase, CysTR2, TXA2R and prostaglandin E2 receptor subtype 2 have been implicated at the single gene level in the aspirin hypersensitivity in asthma. However, integrated analysis of the candidate genes in the pathways has not been evaluated yet. 651 SNPs on 25 candidate genes in the metabolic pathway of arachidonate metabolite were screened for allelic association study in a total of 104 AIA and 275 ATA patients and the result with functional validation will be presented.