HLA-B*5801 Detection

Assessing the Allopurinol induced Hypersensitivity Syndrome, Stevens-Johnson Syndrome & Toxic Epidermal Necrolysis in at-risk populations

- 600+ DNA samples tested & validated by DNA sequencing
- 99+% sensitivity[1] & ~99+% specificity[1]
- strong patent positions in US, Europe, China, Taiwan, Singapore and Australia[2]
- genomic DNA to results in ~2 hours

Allopurinol (AP) is among the most commonly used drug to treat hyperuricemia and its complications. However, severe cutaneous adverse reactions (SCARs), including Hypersensitivity Syndrome (HSS), Stevens-Johnson Syndrome (SJS), and Toxic Epidermal Necrolysis (TEN), have been reported with usage of AP. The risk of SCARs exists in all patients, but in patients of certain genetic variants the risk can be significantly higher.

Studies[3-6] have shown that the HLA-B*5801 allele found in European ancestry, Han Chinese, Japanese and Thai populations have strong association with SCARs. We believe that the inclusion of genetic test with AP prescription may be beneficial for patients.

HLA-B*5801 RT-PCR[7] based detection

- Compatible with most Real-Time PCR systems
- SYBR Green dye
- CE Certified & Research Use

HLA-B*5801 Gel based detection

- Easy to use agarose gel technique
- Compatible with Agilent 2100 BioAnalyzer [8]
- CE Certified & Research Use

Table 1 : HLA-B*5801 Typing

Genomic DNA	Sample #	DNA Sequencing		Pharmigene RT-PCR	
Ethnicity of Healthy Volunteers		Positive (+)	Negative (-)	Positive (+)	Negative (-)
Taiwan	100	17	83	17	83
Thailand	51	10	41	10	41
Indonesia	51	2	49	2	49
Philippine	49	4	45	4	45
India	46	5	41	5	41
Vietnam	49	8	41	8	41
Han Chinese	170	37	133	37	133
Caucasian	100	2	98	2	98
Total	616	85	531	85	531

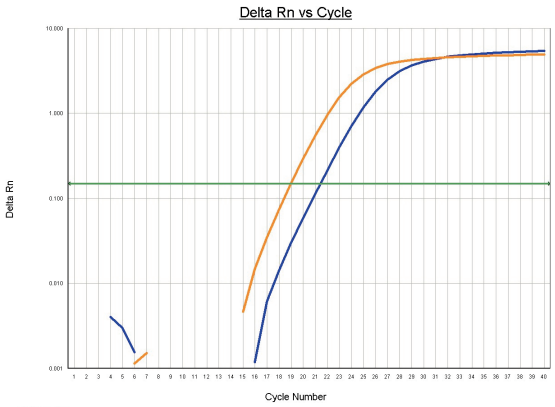
1. Table 1.
2. US7470513, EP1697539, CN1902328, TWI287580, SG122321 and AU2004289951 are properties of Academia Sinica, Taiwan, and are licensed exclusively to Pharmigene, Inc.
3. Hung SL et al, HLA-B* 5801 allele as a genetic marker for sever cutaneous adverse reactions caused by Allopurinol. (2005) PNAS, vol. 102, 11.
4. Kaniwa, N. et al, HLA-B locus in Japanese patients with anti-epileptics and allopurinol-related Stevens-Johnson syndrome and toxic epidermal necrolysis. (2008) Pharmacogenomics 9(11), 1617-1622.
5. Tassaneeyakul, W. et al, Strong association between HLA-B*5801 and allopurinol-induced Stevens-Johnson syndrome and toxic epidermal necrolysis in a Thai population. (2009) Pharmacogenetics and Genomics (in press).
6. Dainichi T. et al., Stevens-Johnson syndrome, Drug-Induced Hypersensitivity Syndrome and Toxic Epidermal Necrolysis caused by Allopurinol in Patients with a common HLA allele: what causes diversity? (2007) Dermatology, 215, 86-88.
7. Additional license may be needed for various usage of RT-PCR in specific territory.
8. "Agilent" and "Agilent 2100 BioAnalyzer" are properties of Agilent Technologies.

E-Mail : service@pharmigene.com http://www.pharmigene.com

Purchase & Distribution

License & Tech Transfer

Contract Manufacturing

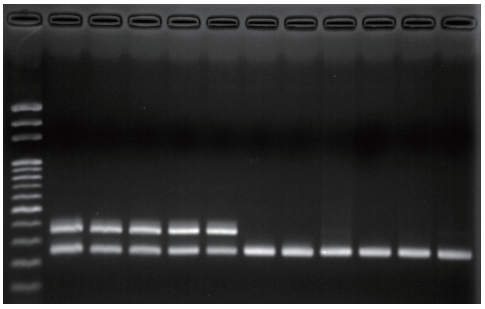


The ΔCt value between tested sample and internal control is used to determine the presence or absence of HLA-B*5801.
ΔCt = Ct of HLA-B*5801 - Ct of internal control

HLA-B*5801 RT-PCR based detection kit

- PCR Master Mix including SYBR GREEN (2x conc.)
- HLA-B*5801 Detection Mix
- Internal Control Detection Mix
- Positive Control Template

Recommended Sample Requirement:
0.2 ml of Blood or 0.2 µg of Genomic DNA



The presence of larger DNA fragment indicates the presence of HLA-B*5801. The smaller DNA fragment is internal control.

HLA-B*5801 Gel based detection kit

- PCR Master Mix (2x conc.)
- HLA-B*5801 + Internal Control Detection Mix
- Positive Control Template

Recommended Sample Requirement:
0.2 ml of Blood or 0.2 µg of Genomic DNA

About Us...

At Pharmigene, Inc. we focus our efforts in developing, patenting, licensing, and commercializing technologies that address the prevention of adverse drug reactions. Our technologies includes HLA-B*1502 detection, HLA-B*5801 detection, Warfarin sensitivity detection (CYP2C9 detection & VKORC1 detection), etc. Pharmigene is an ISO 13485/9001 & GMP certified company since 2007.

Pharmigene, Inc.

USA : Tel:+1-650-847-1416 / Fax:+1-650-847-1415 **Taiwan :** Tel:+886-2-2695-9800 / Fax:+886-2-2695-7707

E-Mail : service@pharmigene.com http://www.pharmigene.com