

## Carbamazepine (Tegretol) Sensitivity

**Pharmacologic agent:** **Carbamazepine (Tegretol)** carbamazepine USP, is an anticonvulsant and specific analgesic for trigeminal neuralgia.

**WARNING: SERIOUS DERMATOLOGIC REACTIONS AND HLA-B\*1502 ALLELE:**

Severe, life-threatening skin reactions, including fatal cases, have occurred in patients treated with carbamazepine. These have included cases of Stevens-Johnson syndrome and toxic epidermal necrolysis. In countries with primarily Caucasian population the incidence is 1-6 per 10,000 new users. The rate approaches 10 times higher in Asian and Asian Indian populations. This higher risk is due to the presence of the HLA-B\*1502 allele in much higher frequencies in these populations.

**Pharmacogenomic information:** Patients who carry the HLA-B\*1502 allele and are of Asian ethnicity appear to be at high risk for developing severe hypersensitivity skin reactions to carbamazepine<sup>1</sup>. Patients of Asian ethnicity should be screened for this HLA type prior to initiation of carbamazepine. FDA has revised the boxed warning to reflect this risk<sup>2</sup>.

**Action:**

- **Screening for the HLA-B\*1502 allele should be performed in patients of Asian ethnicity prior to starting carbamazepine. If this is present an alternative medication is indicated unless the benefits of carbamazepine clearly outweigh the risks.**

**Reference/Resources**

- Lim KS. et al. (2008) [Association of HLA-B\\*1502 allele and carbamazepine-induced severe adverse cutaneous drug reaction among Asians-A review](http://neurologyasia.org/articles/20081_015.pdf). Neurol Asia. 13:15-21. ([http://neurologyasia.org/articles/20081\\_015.pdf](http://neurologyasia.org/articles/20081_015.pdf))
- <http://www.fda.gov/Drugs/DrugSafety/PostmarketDrugSafetyInformationforPatientsandProviders/ucm124718.htm>

**General drug information obtained from RxList:** <http://www.rxlist.com/tegretol-drug.htm>