

# IMMUNOGENETICS OF SIX 'RARE' HLA-B\*15 ALLELES



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## Introduction

We have a structured approach to the identification and study of novel, rare and 'interesting' HLA alleles and their products.

Here we present our current findings on 6 B\*15 alleles found in bone marrow volunteers (BMV) and/or stem cell transplant patients' families (SCT).

## Serology

Twenty reagent antisera, containing various combinations of B62, B63, B70, B75, B76 and B77, were used to differentiate these specificities. The specificities identified all typed as 'normal' examples.

## PCR-SSP

B\*15 high resolution typing was done by PCR-SSP using 43 primers in 41 primer mixtures. All B\*15 alleles listed in the 2002 HLA Nomenclature report were detected and 47 out of 70, at the 4-digit level, could be individually differentiated.

## Haplotype definition

A 'haplotype' is from a family study(ies); a 'possible haplotype' is when subjects possess similar genotypes and/or when a likely common haplotype can be 'separated' (e.g. A1 B8 DR3).

### B\*1507

Found in eight BMV and three SCT patients/families.  
Specificity is B62 (six subjects typed).

Two haplotypes and four possible haplotypes - A\*24; B\*1507; Cw\*0303; DRB1\*0404; DQB1\*0302.

One haplotype and one possible haplotype - A\*24; B\*1507; Cw\*0303; DRB1\*0401; DRB1\*0302.

Three similar possible haplotypes with A\*68.

### B\*1508

Found in three BMV.

Specificity is B75 (three subjects typed).

One likely haplotype - A\*0201/20; B\*1508; Cw\*0102; DRB1\*0901; DQB1\*0302.

Possible haplotype sharing in the other two genotypes - Cw\*0102 (n=2), DRB1\*0901 (n=1).

### B\*1509

Found in ten BMV and one SCT patient/family.

Specificity is B70 (three subjects typed).

One haplotype and two possible haplotypes - A\*24; B\*1509; Cw\*0704/11; DRB1\*1103; DQB1\*0301.

Of the remaining eight genotypes - one was A\*24, three were A\*26, all were Cw\*0704/11 and five were DRB1\*11 (four DRB1\*1103 and one DRB1\*1101); DQB1\*03.

### B\*1511

Found in one Oriental BMV.

Specificity is B75.

Possible haplotype - A\*0201/20/49/50; B\*1511; Cw\*0303; DRB1\*0901; DQB1\*0303.

### B\*1514

Found in one likely Caucasoid SCT.

Specificity is B76.

Possible haplotype - A\*26; B\*1514; Cw\*0303/13; DRB1\*01; DQB1\*0501 (A1 B8 DR3 haplotype removed).

### B\*1535

Found in one likely Oriental BMV.

Specificity is B62.

Phenotype - A\*24, A\*3401; B\*4001, B\*1535; Cw\*0401/8/9, Cw\*0702/3/15; DRB1\*1502, DRB1\*0403/27; DQB1\*0501, DQB1\*0301.

### EBV- transformed B-cell lines

Using our standard procedures (Bass et al. Eur J Immunogenet (1999) 26, 72 and Eur J Immunogenet (2000) 27, 294) B-cell lines were produced on B\*1507, B\*1508, B\*1511 and B\*1535. These are available on request by contacting Dr. Helen Bass at [helen.bass@wbs.wales.nhs.uk](mailto:helen.bass@wbs.wales.nhs.uk) or by visiting our website at [www.wtail.org.uk](http://www.wtail.org.uk)

### Comment

HLA alleles should be investigated for the serological reactivity of their products and for details of their related haplotype(s). This information is of value to Clinical Histocompatibility and Immunogenetics Laboratories particularly those supporting an unrelated stem cell donor transplant programme and/or providing services for an unrelated stem cell donor registry.