

# HLA-B\*15:42 TESTED TWICE IN UK NEQAS FOR H&I'S EDUCATIONAL 'CELL EXCHANGE' SCHEME



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### UK NATIONAL EXTERNAL QUALITY ASSESSMENT SERVICE FOR HISTOCOMPATIBILITY AND IMMUNOGENETICS

#### Introduction

The UK NEQAS for H&I's 'Educational Scheme' provides, gratis, undisclosed samples with 'interesting' HLA alleles/specificities to participants in its 'HLA Phenotyping' and/or 'DNA HLA Typing' schemes.

Findings are not scored or assessed but participants can compare their results with some 20 laboratories using serology and 35 using DNA-based methods.

During 2005 and 2010 two different examples of B\*15:42 (both with B\*07) were tested by up to 35 laboratories using DNA methods and up to 19 laboratories using serology.

#### HLA-B\*15:42

B\*15:42 is a 'hybrid' of B\*15:01 and B\*55:01 whose product has the alpha1 domain of B62 (B\*15:01) and the alpha2 domain of B55 (B\*55:01).

The 2008 HLA Dictionary gives B\*15:42:

- An 'Expert assigned' type of B15
- No WHO assignment
- No UCLA cell exchange, NMDP or IHWS13 data
- A 'Neural network' assignment of B62
- Short B15; reactive with some B22 sera

#### Serology - 2005

In 2005, 8/19 (42.1%) laboratories identified B15 by serology. All used One Lambda trays although 4 others used these but failed to assign B15. Some commented that B15 reactions were weak or that only 'broad' antibodies had reacted. HLA-B15 was not detected by Biotest (4 labs), GTI (3 labs) or GenTrack (1 lab) trays.

No other second specificities were reported.

18/19 serology labs identified B\*15, 12 reported B\*15:42.

#### Serology - 2010

In 2010 7/15 (46.7%) labs reported B15 by serology, 1 each assigned B77 and B18 and 6 failed to find a second HLA-B specificity. All serology labs reported B\*15:42. Again, there was no relationship between the trays used and the identification of B15, e.g. One Lambda Trays were used by 4/7 labs that detected B15 (2 no data) and by 4/8 labs that 'missed' B15.

#### DNA testing - 2005

In 2005, 35 labs reported DNA-based findings. 24 (68.6%) assigned B\*15:42, 2 B\*15:42/73/13:09, 1 an unknown B\*15 variant and 5 assigned B\*15. 1 was unable to assign a second allele and 1 each erroneously assigned B\*15:04 and B\*55.

#### DNA testing - 2010

30 labs reported DNA-based findings in 2010. 25 (83.3%) assigned B\*15:42, 2 B\*15, 1 an allele group missing B\*15:42, 1 a group covering 2 allele families and 1, erroneously, B\*13:09.

#### Comments

These findings indicate that B\*15:42 will be 'missed' by many laboratories using serology alone.

Overall, the last 5 years has seen only a small improvement in laboratories' ability to correctly assign B\*15:42 using DNA-based methods.

#### UK NEQAS for H&I

For further information and a copy of our 2011 Prospectus, visit our website: [www.wtail.org/NEQASHI.htm](http://www.wtail.org/NEQASHI.htm), or contact:

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