

UK National External Quality Assessment Service for Histocompatibility and Immunogenetics 'Educational HLA Typing Scheme' findings in 2016

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Introduction

The UK National External Quality Assessment Service for Histocompatibility and Immunogenetics (UK NEQAS for H&I) has operated an 'Educational Scheme' since 2002.

In this scheme, undisclosed whole blood or DNA samples with interesting HLA alleles/ specificities are sent to it's HLA phenotyping and/or DNA HLA typing scheme participants.

The scheme is gratis and involvement is at the discretion of each laboratory. Findings are not assessed but participants can compare their results with some 40 other laboratories.

In 2016 four DNA extracts were provided with an HLA-A, HLA-B or HLA-C allele of interest.

ED01: A*01:01:65

A*01:01:65 is identical to A*01:01:01 except for nucleotide position 576 in exon 3 (C>T).

27 out of 46 labs (58.7%) reported as A*01:01:65. There were 13 reports of A*01, 4 of A*01:01 and 1 of A*01:01/99/102/167. Disturbingly, there was 1 report of A*36 (Table 1).

Table 1: ED01 Reports

Report	Number of Labs
A*01:01:65	27
A*01	13
A*01:01	4
A*01:01/99/102/167	1
A*36	1

ED02: A*02:24:01

A*02:24:01 is identical to A*02:01:01:01 except for nucleotide position 453 (A>C). This position corresponds to the annealing site of a primer once commonly used in A*02 amplifying PCR-SSP mixtures.

Table 2: ED02 Reports

Report	Number of Labs
A*02:24	13
A*02:24:01	17
A*02	15

30 out of 46 labs (65.2%) reported as either A*02:24:01 (n=17) or A*02:24 (n=13). There were 16 reports of A*02 (Table 2).

We distributed an example of A*02:24 in 2012 (Tissue Antigens 2013, 81, 359). Here, 17 out of 30 labs (56.7%) reported A*02:24 (n=11) or A*02:24:01 (n=6). 3 labs assigned A*02 allele groups of between 5 and 20 alleles, while 10 labs reported A*02 only.

The detection of A*02:24 has improved since 2012, although not significantly so (p>0.1).

ED03: C*02:22

C*02:22 differs from C*02:02:02 by 3 bases in exon 3.

34 out of 44 labs (77.3%) reported as C*02:22. There were 10 reports of C*02 (Table 3).

Table 3: ED03 Reports

Report	Number of Labs
C*02:22	34
C*02	10

We distributed an example of C*02:22 in 2013 (Tissue Antigens 2015, 85, 366.). Here, 22 out of 25 labs (88.0%) assigned C*02:22 and 3 reported C*02. The detection of C*02:022 has declined in the last 3 years, although not significantly so (p>0.1).

ED04: B*40:10

B*40:10:01 differs from B*40:01:01 by 4 bases in exon 2.

33 out of 45 labs (73.3%) reported as either B*40:10 (n=26), B*40:10:01(n=6), B*40:10:01:02 (n=1). There were 2 reports of allele strings containing B*40:10 and 0 reports of B*40.

Table 4: ED04 Reports

Report	Number of Labs
B*40:10	26
B*40:10:01	6
B*40:10:01:02	1
B*40	10
B*40:01/10/22N/43	1
B*40:10/282	1

Comment

Overall, the alleles of interest were identified by some 69% of laboratories

Further Information

Full information on all UK NEQAS for H&I schemes is available at www.neqashandi.org.uk or contact the Schemes' Manager at ukneqashandi@wales.nhs.uk