HOW GOOD ARE WE AT FINDING HLA ANTIBODIES? RESULTS FROM UK NEQAS FOR H&I'S 'HLA ANTIBODY DETECTION' SCHEME

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Introduction

UK NEQAS for H&I's Scheme 6 (HLA Antibody Detection) assesses participants' ability to detect HLA Class I / Class II antibodies.

In 2014, 20 sera were supplied in two distributions of 10 samples. Sera were assigned as 'positive' or 'negative' for Class I and Class II antibodies if ≥ 75% of reports were in agreement. Participants could register for assessment of Class I antibodies only, or both Class I and Class II antibodies.

Results

There were 78 participants for the first distribution and 83 participants for the second distribution of samples. All but 2 participants tested using Luminex technology (Table 1). 31.3% of participants tested using a combination of techniques.

41 participants used One Lambda kits only, 30 used Lifecodes kits only, 7 used kits from both manufacturers, 3 did not provide kit information.

Table 1 - Scheme 6 HLA antibody detection techniques

Technique	No. of Participants	
	Distribution 1 (n=78)	Distribution 2 (n=83)
CDC	21	22
ELISA	3	3
Flow Cytometry	2	2
Luminex	76	81

Of the 20 sera distributed:

- 11 were positive for Class I & Class II antibodies
- 6 were negative for Class I & Class II antibodies
- 2 were positive for Class I & negative for Class II antibodies
- 1 was unassigned for Class I - it did not reach the 75% consensus level (74.0% reported as positive) but was negative for Class II

All participants reported the same positive/negative results (100% consensus) for 30.0% (6/20) of the sera for Class I antibodies and 60% (12/20) of the sera for Class II antibodies.

Incorrect Assignments

- Overall 4.1% of reports different from the consensus result - with more false negative results (56.9%).
- Out of 1,500 Class I reports there were 51 false negative (3.4%) and 21 false positive (1.4%) results (Table 2).
- Out of 1,537 Class II reports there were 19 false negative (1.2%) and 32 false positive (2.1%) results (Table 2).
- There was no correlation between incorrect assignments and the techniques or kits used.

Table 2 - Number of incorrect assignments in 2014

Class I Results (n=1500)		Class II Results (n=1537)	
False Positive	False Negative	False Positive	False Negative
21 (1.4%)	51 (3.4%)	32 (2.1%)	19 (1.2%)

Comment

Accurate Class I/Class II antibody detection is essential to identify sera for further antibody specificity analysis. Although the overall performance in this Scheme's was good (95.9% results correct), the false negative findings suggest that some clinical samples containing HLA antibodies are being discounted without further investigation.

Further information

Full information on all UK NEQAS for H&I schemes is available at **www.neqashandi.org** or contact the Scheme Manager - Deborah Pritchard
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