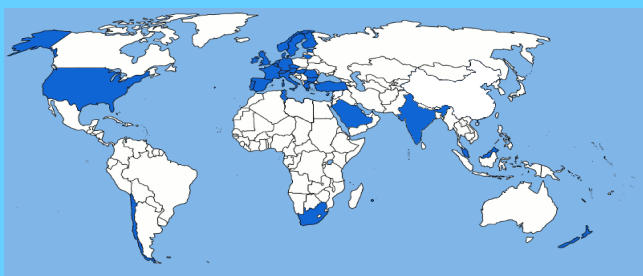


Worldwide Sample Distribution by the UK National External Quality Assessment Service for Histocompatibility and Immunogenetics

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Introduction

We provide a range of schemes to some 300 labs in 40 countries worldwide. Although most are in the UK & Ireland (91 labs) and Europe (182) many (42) are further afield.



For practical and financial reasons all samples (blood, cells, DNA, sera) are transported at ambient temperature. Participating laboratories are requested to assess sample suitability on receipt.

Climate Zone Classification

2015 EQA performance and sample reporting rates for Schemes 1A (blood/separated cells), 4A1 (DNA) and 6 (sera) only) were compared between labs from different climate zones to see if transit temperature affected sample quality. The Köppen climate classification criteria were applied to rank labs by annual average temperature (high to low):

- A: Tropical – 7 labs (e.g. India)
- B: Desert – 4 labs (e.g. Saudi Arabia)
- Csa & Csb: Mediterranean – 46 labs (e.g. Portugal)
- Cfa: Subtropical – 12 labs (e.g. Turkey)
- Cfb: Oceanic – 37 labs (e.g. Belgium)
- UK & Ireland – 30 labs
- D: Sub-arctic – 8 labs (e.g. Sweden).

Results

Group	Satisfactory performance Scheme 1A	% Cell viability for unseparated /T cells	% reporting
A	100.0%	88.0%	100.0%
B	100.0%	90.0%	100.0%
Csa&Csb	100.0%	90.0%	97.8%
Cfa	100.0%	91.5%	100.0%
Cfb	82.4%	95.8%	100.0%
UK&Ireland	100.0%	94.9%	100.0%
D	100.0%	88.7%	100.0%

Group	Satisfactory performance Scheme 4A1	% reporting
A	100.0%	100.0%
B	100.0%	98.3%
Csa&Csb	82.4%	100.0%
Cfa	85.7%	100.0%
Cfb	100.0%	100.0%
UK&Ireland	96.7%	83.3%
D	100.0%	100.0%

Group	Satisfactory performance Scheme 6	% reporting
A	83.3%	100.0%
B	100.0%	86.3%
Csa&Csb	95.8%	100.0%
Cfa	87.5%	100.0%
Cfb	100.0%	96.6%
UK&Ireland	88.0%	99.8%
D	100.0%	100.0%

Scheme 1A – all groups had 100.0% satisfactory performance, except Cfb. All groups reported on all samples distributed, except Csa&Csb. The average percentage viability reported for unseparated/T cells was significantly lower ($p<0.001$) for Groups A and D than for UK&Ireland and Cfb. There was no significance between other groups.

Scheme 4A1 – highest satisfactory performance rates were achieved by groups with the highest annual temperatures (A&B) and the coldest (D). All groups reported all samples except Group B and UK&Ireland.

Scheme 6 – the average satisfactory performance rate of all participants was 93.8%. Groups A, Cfa and UK&Ireland were below this average rate. All groups reported 100.0% of distributed samples, except B, Cfb and UK & Ireland.

Comment

This data does not provide clear evidence of any association between sample quality, performance and participant climate conditions. Clearly, multiple factors must be taken into account in relation to participant performance.

Further Information

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