

A 'FLEXIBLE' EXTERNAL QUALITY ASSESSMENT SCHEME FOR HLA-DR, DQ AND DP TYPING



Susan Corbin & Chris Darke



WELSH TRANSPLANTATION AND IMMUNOGENETICS LABORATORY

Introduction

The UK National External Quality Assessment Service for Histocompatibility and Immunogenetics (UK NEQAS for H&I) currently operates 14 schemes covering many aspects of clinical H&I services.

For the last two years (2011 and 2012), and at participants' request, UK NEQAS for H&I have run a trial (pilot) typing scheme for HLA Class II-associated diseases: Pilot Scheme 8 – "HLA and Disease Typing for DR, DQ, DP Only".

In this scheme participants can:

- Type for any of the Class II loci they desire
- Test at whatever resolution they require
- Report that a particular allele is 'present' or 'absent'

Scheme's samples

DNA extracts are provided. These are all from donors previously tested in UK NEQAS for H&I's scheme 4A2 – "DNA HLA typing to the 2nd Field Resolution". Thus, they are all well-documented samples having been previously tested by some 50 laboratories by a variety of methods.

In 2012 6 samples were distributed, in 2 sets of 3, to 19 participant laboratories.

Results for 2012

Laboratories typed for various Class II loci/alleles associated with a single or various combinations of diseases, namely:

- Coeliac disease - 13 laboratories
- Narcolepsy - 10
- Rheumatoid arthritis – 2
- Type 1 diabetes – 2
- Sarcoidosis – 1

Typing resolution and loci tested

As expected participant laboratories varied in their typing resolution and the loci tested. Thus overall:

- 13 typed for DRB1 alleles
- 5 typed for DRB3/4/5
- 8 typed for DQA1
- 19 typed for DQB1
- 2 typed for DPB1

Scheme assessment

This was based on participants assigning the samples' consensus HLA type (previously determined during testing in scheme 4A2 - "DNA HLA typing to the 2nd Field Resolution") at the 1st or to the 2nd field resolution, for whatever loci they reported.

Participants reporting a particular allele or alleles as 'present' or 'absent' were similarly assessed.

Performance for 2012

Of the 19 participants 15 had no errors, 2 made 1 error each and 2 made 2 errors each.

Comments

In 2013 this will be a fully assessed scheme with a satisfactory performance set at obtaining 9 out of 10 types in accord with previous consensus findings.

This scheme provides an adaptable EQA platform for HLA Class II typing in the 'disease association' setting. It may be further developed to incorporate the typing required for specific conditions, e.g. coeliac disease and narcolepsy.

Further information

Full information on all UK NEQAS for H&I schemes is available at www.neqashandi.org or contact:

Susan Corbin - Scheme Manager
Welsh Blood Service
Pontyclun CF72 9WB, Wales, UK

Fax: + 44 (0) 1443 622185

E-mail: ukneqashandi@wbs.wales.nhs.uk