

# REPEAT HLA-B27 REQUESTING – USEFUL OR WASTEFUL?



WELSH BLOOD SERVICE  
GWASANAETH GWAED CYMRU

WELSH TRANSPLANTATION AND  
IMMUNOGENETICS LABORATORY



M T REES, T J REES, S WINKLER,  
R EYRES AND C DARKE

## Introduction

It is generally recognised that many repeat testing requests in pathology are unnecessary either because they are made within too short a time-scale of physiological change or, as is the case with 'genetic tests', they will not change.

However, when clinically crucial genetic tests are undertaken, repeat testing is often performed as an 'error catch-all', e.g. blood grouping for transfusion.

Histocompatibility and Immunogenetics laboratories customarily include repeat testing in their strategies for donor/recipient typing for both solid organ and bone marrow transplantation.

However, repeat testing is probably not widely undertaken for HLA-B27 typing requests.

## Rationale

Several years ago we became aware that a small proportion of requests for HLA-B27 typing had already been fulfilled.

However, it was decided to continue to test and report these since they provided a simple and routine means of monitoring our sample receipt, testing and reporting procedures.

All typing was done using our standard HLA-B27/B2708 flow cytometry-based typing method.

Here, we report an audit of repeat HLA-B27 typing requests made over the 5-year period to the end of 2001.

## Results

□ There were a total of 3,961 requests over the period and 215 (5.4%) of these had been solicited more than once.

□ The mean number of requests was 792/year, range 684-844/year, and the percentage of repeat requests ranged from 4.2% to 7.0%/year, mean 5.4%/year.

Overall, this equates to about one repeat typing request each week.

□ The frequency of B27 positives in the total requests was 23.9% (compared to 8.1% in our random blood donor population –  $p < 0.0001$ ).

□ There was a significant difference ( $p < 0.0001$ ) in the B27 frequency between requests made once (22.0%) and those made more than once (39.8%).

□ Inspection of the source of the replicated B27 typing requests showed the following patterns:

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From the same hospital	-	42.4%
From a GP then a hospital	-	19.2%
From the 'same' GP	-	18.0%
From different hospitals	-	12.2%
From a hospital then a GP	-	8.1%

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□ Importantly, there were no HLA-B27/B2708 assignment discrepancies between any replicate samples taken from the same patient.

## Comments

This study shows that HLA-B27/B2708 typing by flow cytometry is wholly reliable when performed within a carefully formulated technical and procedural framework.

Our flow cytometry-based testing employs two 'anti-B27' and one 'anti-B7' monoclonal antibody reagents. We believe this is the minimum requirement for reliable B27/B2708 phenotyping.

Since some replicate HLA-B27 requesting seems inevitable we consider that the low level of repeat B27 testing identified here is acceptable – at least from the Laboratory's standpoint.

Replicate B27 typing, with appropriate audit procedures, provides a simple and effective addition to the HLA-B27 external quality assessment scheme, to regularly monitor most of the elements involved in providing an HLA-B27/B2708 typing service.

## References

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