

# Serological confirmation that the HLA-A\*23:68 product reacts as a 'short' HLA-A23

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### Introduction

Our new HLA-A\*23:68 allele (*HLA* 2016:87(1):49-50) differs from A\*23:01:01 by a single base (518C>A) in exon 3 resulting in A149E.

The A\*23:68-bearing haplotype is:

A\*23:68, B\*50:01, C\*06:02, DRB1\*07:01, DQB1\*03:03, DPB1\*04:01.

Serological testing of this single sample (cell id 70975, accession number LN850750) showed that the HLA-A23 specificity behaved as a 'short' A23.

### Second example of HLA-A\*23:68

We have recently completed serological tests (performed in duplicate on two different occasions) on our second example of A\*23:68 (cell identification 15745414/74027).

As part of our standard HLA-A, B, C, DR, DQ serological testing we used 9 well-documented polyclonal antisera with reactivity against various combinations of A23, A24 and A2403 specificities.

The A\*23:68 specificity reacted strongly with anti-A23, A24 and anti-A23, A24, A2403 sera, was negative with anti-A24 and anti-A24, A2403 sera but also negative with 2 out of 3 anti-A23 sera.

These findings were supported by tests on 8 monoclonal antibodies (One Lambda) reacting with various combinations of A23, A24 and A2403, some possessing other non-confounding specificities.

Again, the A\*23:68 specificity reacted well with the anti-A23, A24 antibodies, was negative with the A24, A2403 antibodies but also negative with 2 out of 3 anti-A23 monoclonal antibodies.

### Confirmation of serological profile

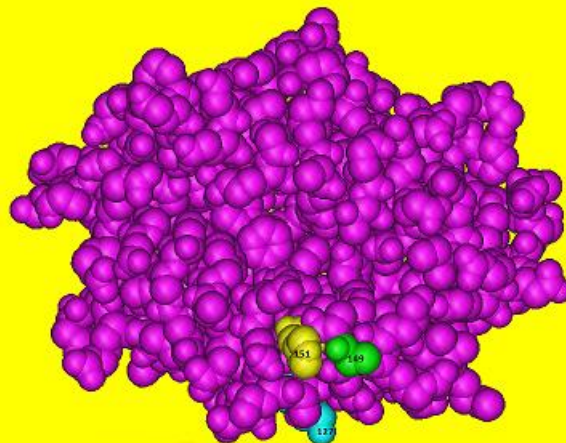
The serological profile of this second example of A\*23:68 is identical to that of our first example.

Accordingly, we have confirmed our original findings that the A\*23:68 product reacts as a 'short A23' specificity.

### Residue 149A

These findings suggest that 149A, an HLA-polymorphic residue located at the top of the HLA molecule with good surface exposure, is an important but not an essential constituent of HLA-A23 epitopes.

For example, motif 127K 149A 151R, possessed by most HLA-A\*23 products and some 'rare' HLA-Class I alleles, is a likely A23 candidate epitope. However, this motif is not possessed by the A\*23:68 product.



Positions 127, 149 and 151 seen from the top of the HLA molecule

### Comment

This case again highlights the usefulness of performing serological testing of 'rare' HLA specificities.