

A serological comparison of HLA-A*26:03 and A*26:08



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Introduction

A*26:03 and A*26:08 are two of the current 104 alleles of the HLA-A*26 family. Although both are WHO assigned as HLA-A26 their serological specificities have been described as “short A26” – for A*26:03 and “short A26, similar to A*26:03; normal A26” – for A*26:08.

During our investigation of new A*26 alleles/specificities we included A*26:03 and A*26:08 in our serological studies.

We used 14 well documented local antisera reacting with various combinations of the four HLA-A10 split specificities and HLA-A43, and cells from 2 A*26:03, 5 A*26:08 together with 8 A*26:01 controls.

A*26:03 reactivity

A*26:03 cells reacted as a ‘normal’ HLA-A26 in that they gave an identical reaction pattern to A*26:01 cells with our 14 antisera.

A*26:08 reactivity

The A*26:08 specificity clearly reacted as an HLA-A26.

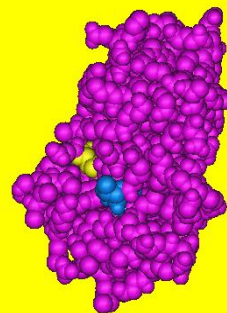
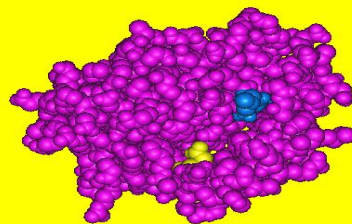
However, one antiserum (strong ‘clean’ anti-A25, A26, weaker A66), was consistently negative with A*26:08.

Similarly, two others (anti-A19, A10 and anti-A10) gave appreciably weaker reactions with A*26:08 compared to A*26:01 and A*26:03 cells.

Amino acid (AA) differences between A*26:01, A*26:03 and A*26:08

AA position	74	76	77	156
A*26:01	D	A	N	W
A*26:03	H	V	D	W
A*26:08	D	A	N	Q

Figures showing positions 74, 76, 77 (highlighted in blue) and position 156 (highlighted in yellow) from the top and side of the HLA molecule.



Inspection of Class I amino acid sequences

Inspection of Class I amino acid sequences identified 38 motifs of between 1 and 6 amino acids unique to various combinations of the HLA-A10 specificities; some comprising additional HLA-A specificities.

8 of these were not possessed by the A*26:03 specificity, suggesting their irrelevance for HLA-A26 reactivity.

Of the remainder, 6 were possessed by A*26:01 and A*26:03 but not A*26:08 suggesting their importance in HLA-A26 serological reactivity.

Consequently, antisera with primary antibodies directed towards epitopes involving one or more of these 6 motifs would be expected to be ‘weak’ or negative with A*26:08 cells.

Thus, the A*26:08 specificity would be seen as ‘short’