

HLA-A*02:01

HLA-A*68:01

HLA-B*15:01

HLA-B*15:01

HLA-C*02:02

HLA-C*06:02

TCR#1 TCR#2 TCR#3 TCR#4 TCR#5 TCR#6

	✓		✓		
✓				✓	
		✓			
		✓			
	✓				
✓					

→ {#2, #4}

→ {#1, #5}

→ {#3}

→ {#3}

→ {#2}

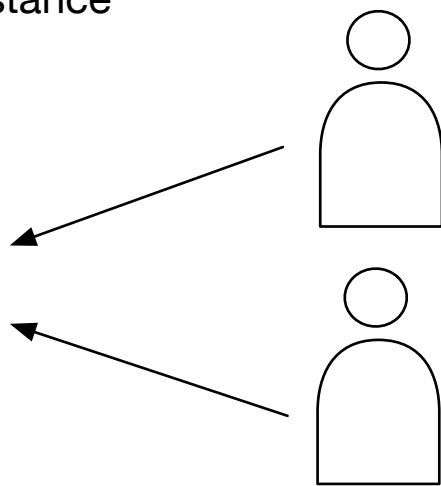
→ {#1}

Union
→

Individual-level set
{#1, #2, #3, #4, #5}

Between-individual HLA-I distance
dist_DePTH_breadth

$$\frac{|A - B| + |B - A|}{|A \cup B|}$$



Individual-level set

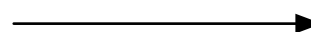
Set A



Individual-level HLA-I heterozygosity metric
DePTH_breadth

|A|

Set B



|B|