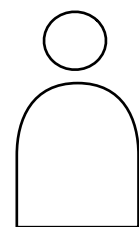


A



	TCR#1	TCR#2	TCR#3	TCR#4	TCR#5	TCR#6
HLA-A*02:01		✓		✓		
HLA-A*68:01	✓				✓	
HLA-B*15:01			✓			
HLA-B*15:01			✓			
HLA-C*02:02		✓				
HLA-C*06:02	✓					

→ {#2, #4}

→ {#1, #5}

→ {#3}

→ {#3}

→ {#2}

→ {#1}

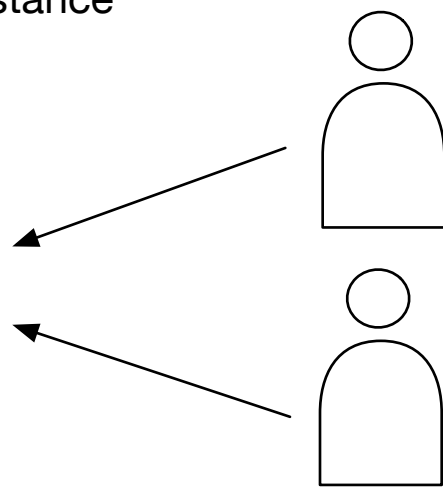
Union
→

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

B

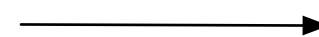
Between-individual HLA-I distance
dist_DePTH_breadth

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



Individual-level set

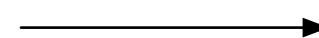
Set A



Individual-level HLA-I heterozygosity metric
DePTH_breadth

|A|

Set B



|B|