Consideration with peak area

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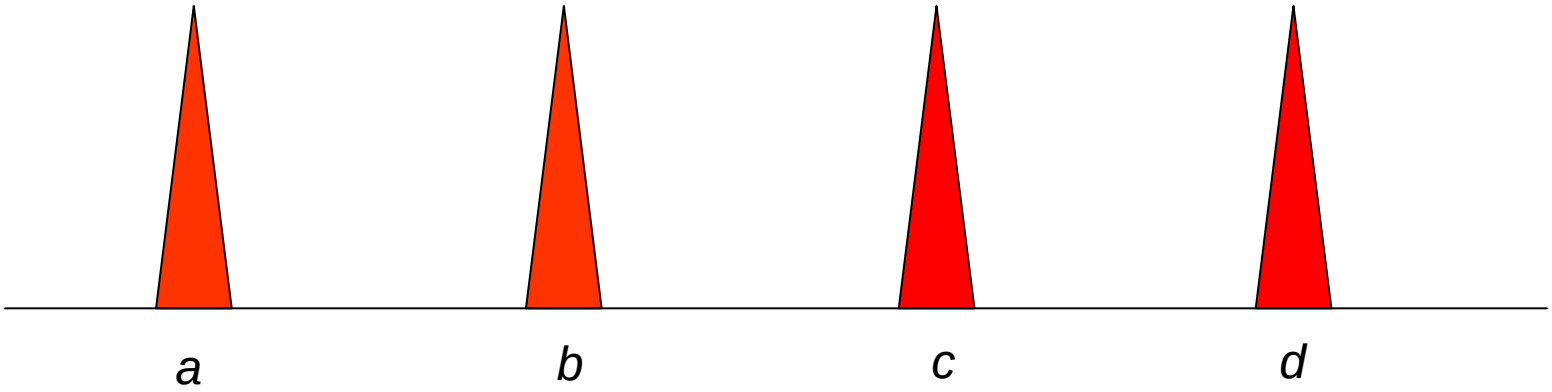
The effect of peak area
a) 4-allele mixture



- Represents perfect balance which is rare

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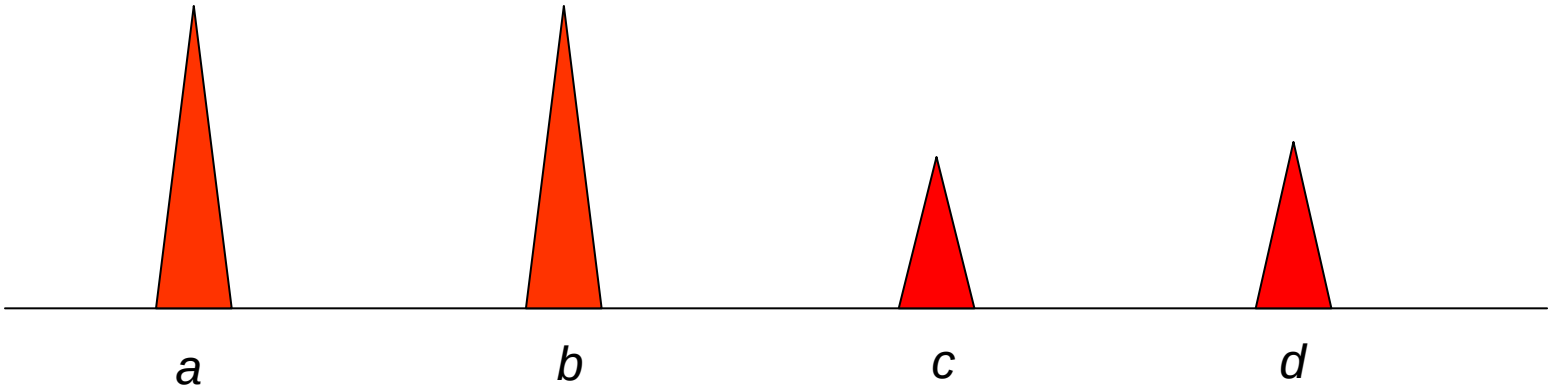
The effect of peak area
a) 4-allele mixture



- More likely to be major/minor
- Visually we can separate potential contributors
- If this is reasonable then we can feed this into the calculation of the LR

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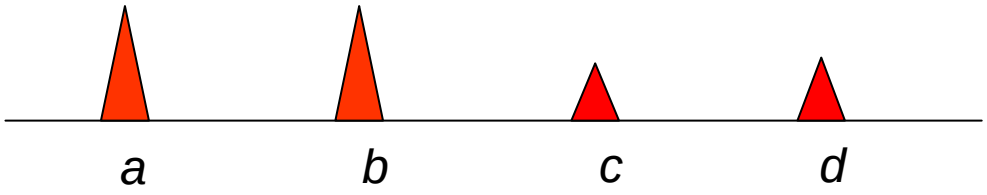
If we can justify pairing alleles

Individual 1	Individual 2	products
ab	*cd*	*4abcd*
ac	*bd*	*4abcd*
ad	*bc*	*4abcd*
cd	*ab*	*4abcd*
bd	*ac*	*4abcd*
bc	*ad*	*4abcd*
	Sum of products	*8abcd*



8abcd is smaller than *24abcd* under *Hd* i.e.the defence scenario is less probable

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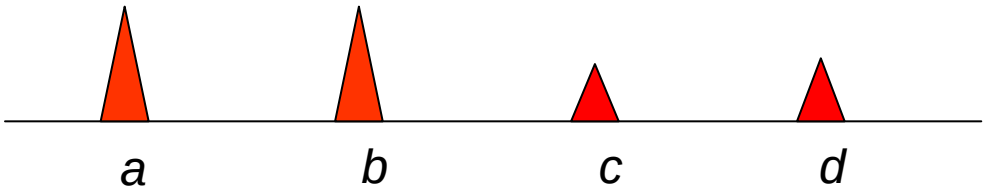
Advantage of using peak area

- Considering peak areas increases the LR
- BUT only if peak area is consistent under *Hp*.



If the suspect is *ac*, then Hp may not be reasonable

Clearly some guidelines are needed if the peak area approach is to be used.

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