

Schlötterer (2004). The evolution of molecular markers – just a matter of fashion? *Nature Reviews Genetics*, 5:63-

1. What type of information does a genetic marker provide? How is it used to address one of the key questions in genetics?
2. What are allozymes? Are they useful in the context of genetic association studies? Why or why not?
3. In contrast to allozymes, what are DNA-based markers? What are the advantages of using DNA-based markers?
4. What are RFLPs? What downplayed their popularity?
5. What are minisatellites? How are they similar/dissimilar to RFLPs? What downplayed their popularity?
6. What is DNA fingerprinting?
7. What does PCR stand for and how did it change the evolution on molecular markers?
8. What are micro-satellites? How are they similar/dissimilar to minisatellites? How large is

a typical repeat region? What is the key reason for them to have gained popularity in mapping endeavors? What is a major drawback of microsatellites, hampering their use in population genetics studies?

9. Are AFLPs PCR-based? Do AFLPs require a priori knowledge about primer sequences in the target species?

10. What is a shotgun genome sequence?

11. SNPs have become one of the most important genetic markers in genetic (association) studies. Despite their success, they suffer from some shortcomings. Name 4.

12. Which technique offers the most finegrained genetic information? Hence, is DNA sequence analysis or comparison an old-fashioned business or will it revive again.

13. Link advantages and weaknesses to the appropriate markers.

14. Which markers or variation capturing technique is the most optimal in the context of making inferences of demographic processes?

Can you make the link with the use of DNA sequences and phylogenetics?

15. Which markers or variation capturing technique is the most optimal in the context of paternity testing and forensics?
16. Which markers or variation capturing technique is the most optimal in the context of linkage analysis?
17. Which markers or variation capturing technique is the most optimal in the context of association analysis?