

Self assessment Lecture 35 Key Replication Mutation and Repair

18. Please place the following in correct order for mismatch repair in *E.coli*. _ c, a, d, e, b _

- a. MutL
- b. DNA Pol III
- c. MutS
- d. MutH
- e. Exonuclease I

19. Humans can repair thymine dimers through use of

- a. the enzyme DNA photolyase
- b. nucleotide excision repair**
- c. both a. and b. are used

20. What is an AP site, and what enzyme creates it? ___apurinic, apyrimidinic site
_created through action of glycosylase which cleaves off the base.

21. DNA Recombination does which of the following?:

- a. Repairs DNA
- b. Increases diversity in offspring
- c. Generates antibody diversity
- d. Introduces new genes
- e. All but c
- f. a - d. are all true**

22. Please put the event of homologous recombination in order:___d., f., a, c., b., e.

- a. 3' Strand invasion
- b. Branch migration
- c. Ligation of the 3' end of one homologous strand to its homolog in the other double strand
- d. Chromosome synapsis
- e. Duplex resolution to form two new double strands of DNA
- f. SS nicking (this is cleaving one strand of a duplex DNA)

23. How does Rec A participate in recombination in *E. coli*? ___Rec A coats the invading strand and stabilizes its interaction with the duplex DNA to promote strand invasion.

Please be prepared to explain the functions of Ruv A, B and C also.