

Bacterial Genetics Quiz 2 - 2011

name

1. A. A donor strain and recipient strain are mixed together in a broth. Genetic markers are transferred from the donor to the recipient. What forms of genetic exchange could be involved?

all three - conjugation, transformation, transduction

B. The donor is separated by a membrane that does not allow bacteria to pass through. If genetic exchange still occurs, what form(s) of exchange could be responsible?

transformation, transduction

C. DNase is added to the mix and genetic exchange still occurs. What form(s) of genetic exchange could be responsible?

transduction

2. What is the source of DNA transferred by:

A. generalized transduction

host bacterium

B. lysogenic conversion

phage

3. What is the functional (not structural) difference between an insertion sequence and a transposon?

insertion sequence = inverted repeats flanking transposase

transposon = insertion sequences flanking a real gene like antibiotic resistance

4. What is the difference in outcome (not mechanism) between phase variation and classical antigenic variation?

phase variation - 2 possibilities only: on/off or A/B

antigenic variation - numerous possibilities

5. What characteristic must a bacteriophage have to be able to carry out specialized transduction?

integrate into host genome