

## Quiz - Transgenic Plant

### Part A: True/False Questions

1. Lipofection cannot be used to transect plant cells.
2. Gene expression is transient because DNA coated with gold particles cannot be incorporated into the genome.
3. Agrobacterium-mediated transformation is the only method for transfecting plant cells.
4. Agrobacterium is a genus of Gram-negative bacteria.
5. Agrobacterium tumefaciens is commonly found in air.
6. Virulence region encodes Vir proteins.
7. Tumor inducing genes on T-DNA can cause tumor or crown galls in the infected plant.
8. By replacing T-DNA with desired genes, Agrobacterium will be disarmed and no tumor will be induced.
9. In the method of gene gun, light metal particles will be mixed with RNA.
10. Using desired gene to replace T-DNA can stop the development of tumor. This method can only be applied to dicot plant.

### Part B: Multiple Choice Questions

1. Why lipofection cannot be used to transect plant cells?
  - A. Plant cells are constrained by cell walls
  - B. Plant cells have cell membrane
  - C. Plant cells are too large
  - D. None of the above
2. What technique can be used to introduce genetic materials into plant cells?
  - A. GFP
  - B. Gene gun
  - C. Fixation
  - D. Staining
3. Which type of gene transfer does Agrobacterium employ to induce tumor in plants?
  - A. Horizontal transfer
  - B. Diagonal transfer
  - C. Vertical transfer
  - D. None of the above
4. From which part of the plant can Agrobacterium tumefaciens infect a plant?
  - A. Wound in stem
  - B. Wound in root
  - C. Both A and B
  - D. None of the above

5. What does "Ti" stand for?
  - A. Titanium
  - B. Tumor inducing
  - C. Tuberculosis inducing
  - D. None of the above
  
6. What is responsible for slicing the left border and right border of Ti plasmid?
  - A. Vir proteins
  - B. Agrobacterium
  - C. Gram positive bacteria
  - D. None of the above
  
7. What method can be used to replace T-DNA by the desired gene?
  - A. DNA slicing method
  - B. Fixation
  - C. DNA recombination method
  - D. All of the above
  
8. What is used to push the dish containing DNA coated with gold particles towards a screen?
  - A. High pressure
  - B. High velocity
  - C. Both A and B
  - D. None of the above
  
9. For tumor induction, which of the following components is of significance importance?
  - A. T-DNA
  - B. T-RNA
  - C. Agrobacterium
  - D. None of the above
  
10. Why lipoplex cannot merge with cell membrane by endocytosis?
  - A. Plant cells are constrained by cell walls
  - B. Plants cells have cell membrane
  - C. Plant cells are too large
  - D. None of the above