

NEET BIOTECHNOLOGY AND ITS APPLICATIONS — GENE THERAPY — PYQS

Max. Marks: 32

Questions: 8

Section A (MCQ) — 8 questions

Q.1 In gene therapy of Adenosine Deaminase (ADA) deficiency, the patient requires periodic infusion of genetically engineered lymphocytes because:

[NEET (UG) 2022]

- (1) Retroviral vector is introduced into these lymphocytes.
- (2) Gene isolated from marrow cells producing ADA is introduced into cells at embryonic stages
- (3) Lymphocytes from patient's blood are grown in culture, outside the body
- (4) Genetically engineered lymphocytes are not immortal cells.

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Q.2 When gene targeting involving gene amplification is attempted in an individual's tissue to treat disease, it is known as :

[NEET (UG) 2021]

- (1) Safety testing
- (2) Biopiracy
- (3) Gene therapy
- (4) Molecular diagnosis

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Q.3 The Adenosine deaminase deficiency results into

[NEET (UG) 2021]

- (1) Addison's disease
- (2) Dysfunction of immune system
- (3) Parkinson's disease
- (4) Digestive disorder

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Q.4 Which of the following is commonly used as a vector for introducing a DNA fragment in human lymphocytes?

[NEET 2018]

- (1) Retrovirus
- (2) Ti plasmid
- (3) λ phage
- (4) pBR322

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Q.5 Which kind of therapy was given in 1990 to a four-year-old girl with adenosine deaminase [ADA] deficiency ?

[NEET 2016 (Phase 2)]

- (1) Radiation therapy
- (2) Immunotherapy
- (3) Gene therapy
- (4) Chemotherapy

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Q.6 Which one of the following vectors is used to replace the defective gene in gene therapy ?

[NEET 2013 (Karnataka)]

- (1) Ti plasmid
- (2) Cosmid
- (3) Ri plasmid
- (4) Adenovirus

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Q.7 The first clinical gene therapy was given for treating

[AIPMT 2012 (Mains)]

- (1) Rheumatoid arthritis
- (2) Adenosine deaminase deficiency
- (3) Diabetes mellitus
- (4) Chicken pox

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Q.8 The genetic defect – adenosine deaminase (ADA) deficiency may be cured permanently by

[AIPMT 2009]

- (1) Introducing bone marrow cells producing ADA into cells at early embryonic stages
- (2) Periodic infusion of genetically engineered lymphocytes having functional ADA cDNA
- (3) Administering adenosine deaminase activators
- (4) Enzyme replacement therapy

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8			
Ans.	4	3	2	1	3	4	2	1			