



← Biotechnology Test Test

15 Matching Questions

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|---|---|--|
| 1. Plasmid | a | Is much smaller than the human genome, and most of it codes for proteins. Circular, haploid with no nucleus, and codes around 4 million base pairs |
| 2. PCR Process | b | mechanism of horizontal gene transfer between bacteria in which the bacterial DNA is transferred as "naked" DNA; incorporates DNA bits into its own chromosomes thus expressing the genes from the transferred DNA |
| 3. humulin | c | technique that allows to make many copies of a particular gene |
| 4. pluripotent | d | 1. add DNA, DNA polymerase, enzyme, primers, nucleotides
2. denature DNA to separate strands
3. Anneal DNA/cool to hybridize with primers and build DNA (extension) |
| 5. polymerase chain reaction (PCR) | e | procedure used to separate and analyze DNA fragments by placing a mixture of DNA fragments at one end of a porous gel and applying an electrical voltage to the gel |
| 6. Gel Electrophoresis | f | a form of insulin made from recombinant DNA that is identical to human insulin, produced in great quantities by producing many bacteria that carry out the same protein |
| 7. DNA Transformation | g | a small cellular inclusion consisting of a ring of DNA that is not in a chromosome but is capable of autonomous |
| 8. Human Genome Project | | |
| 9. PCR | | |
| 10. 1. Forensic Science 2. Know where genes are located 3. Develop gene therapy 4. show evolutionary relationships 5. compare processes among multi-cellular organisms (EVO-DEVO) | | |
| 11. embryonic stem cells | | |
| 12. Carlos Slim Helu (\$69 billion) who owns Telecom and lives in Mexico just topping # 2 Bill Gates (\$61 billion) | | |

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Question Types

Written

Matching

Multiple Choice

True/False

Prompt With

Term

Definition

Question Limit

of 40 available terms



replication; circular molecule in bacteria that holds DNA

13. Taq polymerase

h An international effort to map the complete human genetic code. This effort was essentially completed in 2001, though analysis is ongoing

14. Bacterial genome

i are pluripotent; the ultimate aim is to use them for the repair of damaged or diseased organs

15. DNA ligase

j a heat-stable form of DNA polymerase extracted from bacteria that live in hot springs that is used during PCR technique

k polymerase chain reaction, a technique that allows to make many copies of a particular gene

l an enzyme that ties the ends of inserted DNA in genetic engineering (or Okazaki fragments in DNA replication)

m 5 Reasons the Human Genome Project is important

n Who is the world's richest person?

o capable of differentiating into many different cell types; stem cells are pluripotent

15 Multiple Choice Questions

1. small, circular DNA molecules that replicate separately from the bacterial chromosome

- a. primers
- b. Plasmid
- c. Ti plasmid
- d. plasmids

2. artificially made pieces of single-stranded DNA that must be present for DNA polymerase to initiate replication (used in PCR)

- a. PCR Primers
- b. PCR

- c. plasmids
 - d. primers
3. enzyme that cuts DNA at a specific sequence of nucleotides (palindrome area)
- a. restriction site
 - b. Bacterial genome
 - c. restriction enzyme
 - d. sticky end
4. a specific sequence on a DNA strand that is recognized as a "cut site" by a restriction enzyme.
- a. sticky end
 - b. gene cloning
 - c. restriction enzyme
 - d. restriction site
5. the use of computers, software, and mathematical models to process and integrate biological information from large data sets.
- a. binary fission
 - b. Ti plasmid
 - c. bioinformatics
 - d. DNA Transformation
6. a carrier used to transfer a gene from one organism to another in genetic engineering (a virus, or recombinant plasmid)
- a. Mapping genomes
 - b. cloning vector
 - c. homeobox
 - d. pluripotent
7. a single stranded end of a restriction fragment; can form hydrogen bonds with complementary single stranded pieces of DNA.
- a. stem cells
 - b. sticky end
 - c. Ti plasmid
 - d. primers
8. unspecialized cell that can give rise to specialized cells
- a. humulin
 - b. stem cells

- c. Genome
 - d. primers
9. 180 nucleotide sequence which determines development of body organization of vertebrates and invertebrates
- a. Genome
 - b. primers
 - c. humulin
 - d. homeobox
10. Are designed to base pair with ends of the DNA strands and will be mixed with DNA
- a. PCR Process
 - b. primers
 - c. pluripotent
 - d. PCR Primers
11. Bacterial reproduction in which they split into two equal sized cells. Rapid growth: happens once every 20 minutes
- a. Plasmid
 - b. gene cloning
 - c. DNA ligase
 - d. binary fission
12. insertion of normal genes into human cells to correct genetic disorders
- a. gene cloning
 - b. Genome
 - c. Farther
 - d. gene therapy
13. In gel electrophoresis, the small DNA fragments travel _____ than the large fragments.
- a. PCR
 - b. Farther
 - c. Genome
 - d. primers
14. to locate all of the genes of an organism and locate them on chromosomes
- a. Genome
 - b. Bacterial genome

- c. cloning vector
- d. Mapping genomes

15. DNA produced by combining DNA from different species

- a. pluripotent
- b. Genome
- c. recombinant DNA
- d. gene cloning

