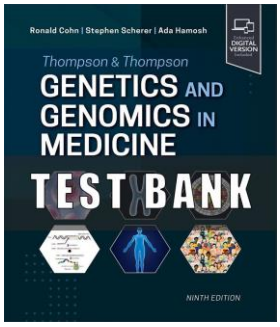

Test Bank For Thompson & Thompson Genetics and Genomics in Medicine (Thompson and Thompson Genetics in Medicine) 9th Edition by Ronald Cohn

Online Supplemental Material

Test Bank

MULTIPLE CHOICE

1. How did the development of bacterial artificial chromosomes (BACs) facilitate the sequencing of the human genome?
   A. It allowed human DNA to be cloned into bacteria for the first time
   B. It allowed larger pieces of human DNA to be cloned
   C. It allowed human chromosomes to be grown in bacteria
   D. It allowed recombinants between human and bacteria to be made
   E. It allowed recombination between human and bacterial chromosomes

ANS: B

2. Which of the following techniques is used to examine proteins?
   A. Northern blot
   B. Southern blot
   C. Western blot
   D. Microarray
   E. All of the above

ANS: C

3. The generation of complementary DNA (cDNA) libraries requires which enzyme?
   A. Reverse transcriptase
   B. DNA polymerase
   C. RNA polymerase
   D. Polyadenylic (poly-A) polymerase
   E. Exonuclease

ANS: A

4. A Southern blot detects which of the following?
   A. Alternative splicing
   B. Point mutations
   C. Transcriptional start sites
   D. Large deletions
   E. Frameshift mutations

ANS: D

5. Allele specific oligonucleotides are most useful for detection of what kind of mutations?
   A. Small insertions
   B. Common point mutations for a specific disease
   C. Rare mutations
   D. Frameshift mutations
   E. Splice site mutations in a particular exon

ANS: B

6. This technique allows the amplification of DNA sequences:
   A. Polymerase chain reaction (PCR)
   B. Cloning into bacteria
   C. Incorporation of dideoxynucleotides
   D. A and B
   E. A and C

ANS: D

7. Which of the following techniques detects a translocation?
   A. Southern blot
   B. PCR
   C. Spectral karyotyping
   D. Microarray
   E. Comparative genome hybridization

ANS: C

8. Comparative genome hybridization detects what type of change in the DNA?
   A. Point mutations
   B. Frameshift mutations
   C. Alternative splicing
   D. Dosage changes
   E. Recombination

ANS: D

9. Which of the following techniques is used to measure the relative expression of many transcripts simultaneously?
   A. Microarray
   B. Northern blot
   C. Reverse transcriptase polymerase chain reaction (RT-PCR)
   D. cDNA cloning
   E. Comparative genome hybridization

ANS: A

10. What specifies the DNA sequence amplified in a PCR reaction?
   A. The promoter and stop codon
   B. The splice sites
   C. The primers
   D. DNA polymerase
   E. The physical ends of the DNA

ANS: C

11. Which of the following techniques allows staining a particular chromosome specifically?
   A. Comparative genome hybridization
   B. Southern blot
   C. G-banding
   D. Fluorescent in situ hybridization (FISH)
   E. Karyotyping

ANS: D

12. Restriction enzyme digestion would NOT be used for which of the following techniques?
   A. Restriction fragment length polymorphism (RFLP)
   B. Cloning a PCR fragment
   C. Southern blot
   D. Northern blot
   E. Construction of a BAC library

ANS: D

13. A probe is required for which of the following?
   A. FISH
   B. Northern blot
   C. Southern blot
   D. Western blot
   E. All of the above

ANS: E

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Chapter 02: Introduction to the Human Genome

Test Bank

MULTIPLE CHOICE

1. How many chromosomes do humans normally have in their somatic cells?
   A. 22
   B. 23
   C. 44
   D. 45
   E. 46

ANS: E

2. In humans, DNA is associated with several classes of proteins and packaged into complexes known as:
   A. Histones
   B. Chromatin
   C. Nuclei
   D. Genomes
   E. Double helices

ANS: B

3. Which of the following represents the pairing of nucleotide bases in DNA?
   A. Purines-Purines, Pyrimidines-Pyrimidines
   B. Adenine-Cytosine, Guanine-Thymine
   C. Adenine-Guanine, Cytosine-Thymine
   D. Guanine-Cytosine, Adenine-Thymine
   E. Deoxyribose-Ribose

ANS: D

4. Which of the following are composed of repetitive DNA elements?
   A. Centromeres
   B. Alu elements
   C. LINE elements
   D. Telomeres
   E. All of the above

ANS: E

5. A human somatic cell spends most of its life in this state:
   A. Meiosis
   B. Mitosis
   C. Interphase
   D. Zygote
   E. Prophase

ANS: C

6. The arms of a chromosome are designated:
   A. 1 and 2
   B. Short and long
   C. p and q
   D. Individually for each chromosome
   E. A and B

ANS: C

7. An important and distinct feature of meiosis is:
   A. Recombination
   B. Chromosome condensation
   C. Chromosome congression
   D. Spindle formation

ANS: A

8. Mitosis and meiosis result in the following chromosome complements, respectively:
   A. n, 2n
   B. 2n, n
   C. Haploid, diploid
   D. 2n, 2n
   E. n, n

ANS: B