**Microsatellites and VNTR typing in clinical settings**

**May 2019** *[This form may be photocopied. It is no longer valid for CEUs after November 30, 2020.)*

# TEST QUESTIONS

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1. **The most common method for DNA profiling is**
   - a. microarray.
   - b. allele-specific oligonucleotide.
   - c. macromolecule blotting and probing.
   - d. VNTR (Variable Nucleotide Tandem Repeat).

2. **The only phenotypic information about the source identified in DNA profiling is**
   - a. behavior.
   - b. gender.
   - c. hair color.
   - d. height.

3. **Multiple tandem repeats of a single short nucleotide is referred to as**
   - a. microaggregates.
   - b. minisatellites.
   - c. microsatellites.
   - d. macrosatellites.

4. **A minisatellite forms when the number of repeated nucleotide elements exceed**
   - a. 10.
   - b. 20.
   - c. 35.
   - d. 50.

5. **The terms STR typing, microsatellite typing, and VNTR typing are used interchangeably in practice.**
   - a. True
   - b. False

6. **The human genome makes up about _____ percent of microsatellites?**
   - a. 1
   - b. 3
   - c. 5
   - d. 8

7. **It is clearly researched that microsatellites have consistent useful biological function as all being pathogenic.**
   - a. True
   - b. False

8. **One of the most common trinucleotide repeat disorders is**
   - a. Huntington's disease.
   - b. sickle cell disease.
   - c. thalassemia.
   - d. Turner syndrome.

9. **The mechanisms that cause changes in the number of microsatellite repeats are**
   - a. polymerase slippage and missense mutations.
   - b. unequal crossing over and base substitutions.
   - c. polymerase slippage and unequal crossing over.
   - d. base substitutions and nonsense mutations.

10. **The _____ a microsatellite is, the _____ the chances are of polymerase slippage.**
    - a. shorter, greater
    - b. longer, lesser
    - c. longer, greater
    - d. none of the above

11. **On an evolutionary timescale, the changes in the number of microsatellite repeats are rare.**
    - a. True
    - b. False

12. **VNTR loci for evaluation are selected to be tested based on**
    - a. high allelic diversity.
    - b. having high conserved flanking sequences.
    - c. good amplification behavior.
    - d. all of the above

13. **It is possible to combine different, expected product sizes, using different dyes where sizes might overlap in one test system to test for _____ different loci in a single reaction.**
    - a. 5-10
    - b. 10-15
    - c. 15-20
    - d. 20-25

14. **The readout method measures peaks with known, expected sizes and is performed through**
    - a. capillary electrophoresis.
    - b. microchip electrophoresis.
    - c. PAGE electrophoresis.
    - d. none of the above

15. **The set of values that are generated by VNTR binning is known as the sample**
    - a. size.
    - b. threshold.
    - c. fingerprint.
    - d. none of the above

16. **The most common non-forensic setting(s) in which VNTR typing is/are used is**
    - a. paternity testing and anatomical pathology for tissue blocks.
    - b. paternity testing and background checks.
    - c. anatomical pathology and Rh weak D blood typing.
    - d. background checks and infectious diseases.

17. **Sample contamination is a concern for VNTR typing at low level contaminations.**
    - a. True
    - b. False

18. **All are benefits of VNTR typing except**
    - a. high test sensitivity.
    - b. good performance on poor quality DNA.
    - c. small and easily manipulated data sets.
    - d. high sensitivity to contamination.

**Tests can be taken online or by mail. Easy registration and payment options are available through NIU by following the links found at www.mlo-online.com/ce.**

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