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https://www.100test.com/kao_ti2020/122/2021_2022__E7_8E_8B_E9_95_BF_E5_96_9C-_c84_122515.htm A controversy erupted in the scientific community in early 1998 over the use of DNA

(deoxyribonucleic acid) fingerprinting in criminal investigations. DNA fingerprinting was introduced in 1987 as a method to identify individuals based on a pattern seen in their DNA , the molecule of which genes are made. DNA is present in every cell of the body except red blood cells. DNA fingerprinting has been used successfully in various ways , such as to determine paternity where it is not clear who the father of a particular child is. However , it is in the area of criminal investigations that DNA fingerprinting has potentially powerful and controversial uses. DNA fingerprinting and other DNA analysis techniques have revolutionized criminal investigations by giving investigators powerful new tools in the attempt to prove guilt , not just establish innocence. When used in criminal investigations , a DNA fingerprint pattern from a suspect is compared with a DNA fingerprint pattern obtained from such material as hairs or blood found at the scene of a crime. A match between the two DNA samples can be used as evidence to convict a suspect. The controversy in 1998 stemmed from a report published in December 1991 by population geneticists Richard C. Lewontin of Harvard University in Cambridge , Mass. , and Daniel L. Hartl called into question the methods to calculate how likely it is that a match between two DNA fingerprints might occur by chance alone.

In particular , they argued that the current method cannot properly determine the likelihood that two DNA samples will match because they came from the same individual rather than simply from two different individuals who are members of the same ethnic group. Lewontin and Hartl called for better surveys of DNA patterns methods are adequate. In response to their criticisms , population geneticists Ranajit Chakraborty of the University of Texas in Dallas and Kenneth K.Kidd of Yale University in New Haven , Conn. , argued that enough data are already available to show that the methods currently being used are adequate. In January 1998 , however , the federal Bureau of Investigation and laboratories that conduct DNA tests announced that they would collect additional DNA samples from various ethnic groups in an attempt to resolve some of these questions. And , in April , a National Academy of Sciences called for strict standards and system of accreditation for DNA testing laboratories.

1. Before DNA fingerprinting is used , suspects _____. A. would have to leave their fingerprints for further investigations B. would have to submit evidence for their innocence C. could easily escape conviction of guilt D. could be convicted of guilt as well

2. DNA fingerprinting can be unreliable when _____. A. the methods used for blood- cell calculation are not accurate B. two different individuals of the same ethnic group may have the same DNA fingerprinting pattern C. a match is by chance left with fingerprints that happen to belong to two different individuals D. two different individuals leave two DNA samples.

3. To geneticists like Lewontin and Hartl , the current method _____. A. is not so

convincing as to exclude the likelihood that two DNA samples can never come from two individuals B.is arguable because two individuals of the same ethnic group are likely to have the same DNA pattern. C.Is not based on adequate scientific theory of genetics D.Is theoretically contradictory to what they have been studying 4.The attitude of the Federal Bureau of Investigation shows that _____.

A.enough data are yet to be collected form various ethnic groups to confirm the unlikelihood of two DNA samples coming from two individual members B.enough data of DNA samples should be collected to confirm that only DNA samples form the same person can match C.enough data are yet to be collected from various ethnic groups to determine the likelihood of two different DNA samples coming form the same person D.additional samples from various ethnic groups should be collected to determine that two DNA samples are unlikely to come from the same person 5.National Academy of Sciences holds the stance that _____.

A.DNA testing should be systematized 100Test 下载频道开通，各类考试题目直接下载。详细请访问 www.100test.com