



Daily Article (Bharath's Reading list) - Answers and Explanations
25.04.2023

Article link : <https://bit.ly/3UZTuKK> **(The Genetic History of Indians: Are We What We Think We Are?)**

1. Which of the following is incorrect, based on the article?

- A. People of the Indus Valley civilization in all likelihood emerged from a mixed population of Iranian agriculturists and Ancient Ancestral South Indian hunter-gatherers
- B. Lactose persistence in India is due to a genetic variant that has the same origin as that found among Europeans, suggesting that immigrants brought it to India in ancient times
- C. The mixing among people from the Steppe region and those of the Indus Valley Civilization resulted in the emergence of the ANI population while the mixing among Indus Valley people and AASIs gave rise to ASIs.
- D. Mitochondrial DNA studies show that 17.5 per cent of Indian male lineage belongs to the haplogroup R1a, leading some scientists to suggest that the movement into India was probably of male migrants

Explanation : D

According to the article, it was studies tracing the descent of the Y-chromosome (not mitochondrial DNA studies) that showed that 17.5 per cent of Indian male lineage belongs to the haplogroup R1a.

2. The study of the DNA samples of the Indus Periphery group points to the movement of the Steppe migrants into South Asia based on which of the following?

- A. the genetic similarity between the Indus Periphery group and the individuals living in the Swat Valley about a millennium later

- B.the presence of a substantial admixture of AASIs in their samples
- C.the fact that when compared with the genes of modern-day Indians, they fit as an ancestral population
- D.All the above

Explanation: D

All given options are true, based on the article: "Collectively called the Indus Periphery group in the study, the aforementioned three were probably outward migrants from the Indus Valley Civilisation, say researchers... They also point towards the genetic similarity between the Indus Periphery group, dated between 3100 and 2200 BCE, and the individuals living in the Swat Valley about a millennium later, between 1200 BCE and 1 CE, the presence of a substantial admixture of AASIs in their samples, and the fact that when compared with the genes of modern-day Indians, they fit as an ancestral population..."

3 The absence of the R1a genetic marker in DNA samples extracted from the Indus Valley could be significant as:

- A.the haplogroup R1a is found only in South and Central Asia
- B.it suggests that R1a was brought into South Asia, perhaps by a proto-Indo- European speaking group, from elsewhere
- C.DNA sample is of a period after the Steppe people supposedly arrived in India
- D.All the above

Explanation:

Correct option **B**

Option B is correct, based on the last paragraph. Option A is incorrect as R1a is distributed across a large area of Europe, according to the article. According to the article, the DNA sample is of a period before the Steppe people supposedly arrived in India. So, option C is also incorrect.

