

# Establishing Paternity Without the Alleged Father: How DNA Testing Still Holds the Answers

DNA is one of the most powerful tools available today in forensic and familial investigations. One common question we receive from clients and readers of DNAnews is "Can paternity be determined if the alleged father is unavailable or unwilling to participate in testing?" The answer is yes. In this issue, we will explain how.

## The Science of Paternity Testing

Paternity testing works by comparing specific regions of the child's DNA to that of the alleged father. Each person inherits half of their DNA from their biological mother and half from their biological father. By analyzing genetic markers (typically Short Tandem Repeats, or STRs), a DNA testing lab can determine with over 99.99% certainty whether a man is the biological father. But if the alleged father is not available for testing due to absence, death, incarceration, or other reasons, there are other DNA tests that can provide the answer.

## Alternative DNA testing options to determine paternity

Even in the absence of the alleged father, there are alternative DNA relationship tests available that can accurately assess paternity.

### 1. Testing the Paternal Relatives

DNA from close biological relatives of the alleged father can be used to establish a probable biological relationship:

- **Paternal Grandparents:** Because they share DNA with the child, testing both grandparents can provide a strong indication of paternity.
- **Biological Siblings of the Alleged Father (Uncles or Aunts):** This is called avuncular test. Siblings share a high percentage of DNA with each other, and this can be traced through to the child.
- **Other Known Children of the Alleged Father:** This is called a sibling test and can help determine if two individuals share a common parent.

These tests are referred to as "sibship", "avuncular" or "grandparentage" tests. While they may not be as conclusive as a direct paternity test, they can still provide strong statistical evidence that supports or refutes a paternity claim.

### 2. Y-Chromosome (Y-STR) Testing

For male children, we can use Y-STR analysis, which targets the Y chromosome passed virtually unchanged from father to son. If the alleged father's male relatives are available (e.g., a brother or father), and the child is male, this method can help establish a paternal line connection.

## Real-world applications

Cases of disputed paternity are not always confined to the courtroom or for personal use. These methods are used:

- In immigration to prove family relationships

- In estate claims and inheritance disputes
- To help individuals trace family history or identify biological roots

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