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## **THE ISOTOPIC RATIO $87\text{Sr}/86\text{Sr}$ AS MOBILITY/PERMANENCE MARKER IN VELIA ARCHEOLOGICAL SITE**

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During roman times the mobility used to be forced by slavery, military reason or self-driven. Assessing the magnitude of this migration is critical to better understand a culture. During the last decades the scientific community agreed on the effectiveness of strontium isotope ratio ( $87\text{Sr}/86\text{Sr}$ ) to study this specific phenomenon.

The aim of this study is to individuate this mobility phenomena using invasive technique in order to characterize the  $87\text{Sr}/86\text{Sr}$  isotopic ratio of different human individua, analyzing the enamel of their teeth.

Strontium (Sr) substitutes calcium (Ca) in biogenic apatite. It is known that only  $87\text{Sr}$  fluctuate during time because of its radiogenic nature so it will varies depending on geological region. It is well known that strontium isn't influenced by isotopic fractionation and passes through the biological cycle unchanged. Due to those characteristics this ratio will result different and diagnostic for specific areas.

It is important to assess a local range therefore, in this case, archeological pigs' values were chosen because they were breed in loco and fed with leftovers. Additionally, values obtained from literature were used and helped to obtain a strong and valid proxy.

In conclusion, it is possible to say with a good margin of error that all the individua are Velian from their birth since the ratio variation from the human samples is negligible and in the range assessed using both literature faunal data and results from this study.

### **Keywords**

isotopes, strontium, mobility, geochemistry, archaeology, TIMS

### **Note/comment**