

## **A Simplified Van Erth Single Nucleotide Polymorphism (SNP) Typing Method of *Bacillus Anthracis* Applicable by Traditional Thermocycler Machines**

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### **Abstract**

SNP typing is now a well-established genotyping system in *Bacillus anthracis* studies. In the original standard method of Van Erth, SNPs at 13 loci of the *B. anthracis* genome were analyzed. In order to simplify and make appropriate this expensive method to low-budget laboratory settings, 13 primer pairs targeting the 13 corresponding SNPs were designed. Besides, a universal PCR protocol was developed to enable simultaneous amplification of all loci by conventional PCR machines. The efficiency of this approach was approved by applying on nine isolates of *B. anthracis*. We recommend using this modified procedure as an efficient alternative to Van Erth method until developing newer and affordable techniques.

**Keywords:** Bacillus Anthracis, Genotyping, SNPs, PCR