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HIGH RESOLUTION GENOTYPING OF *BACILLUS ANTHRACIS* BY MULTILOCUS PCR AND MASS SPECTROMETRY (PCR/ESI-MS)

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Bacillus anthracis is the causative agent of anthrax and a biowarfare agent. The rapid detection of *B. anthracis* and resolution from its near-neighbors is essential for the detection of bioterrorism events. Furthermore, high-resolution genotyping can be critical for attribution. For example when a case of Anthrax arises in New York, as one recently did, is this case the first victim of a terrorist attack, an accidental self inflection by a bioterrorist, or a chance infection? To answer these questions a ultra-high resolution genotyping assay is needed that can both identify the bio-geographical linage of the isolate and provide the high resolution required for attribution.

Here we present results of analysis of a diverse collection of *B. anthracis* isolates and a human clinical isolate from New York using a PCR panel of canonical SNPs and VNTRs. The panel consists of 24 PCR primer pairs that were designed to canonical SNPs (14) and VNTRs (10). Using PCR and electrospray mass spectrometry (PCR/ESI-MS) the unique base composition signatures were determined for the identification and genotyping of *Bacillus anthracis.* Results of the analysis of the New York isolate is consistent with B. anthracis strain originating in Africa.