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Inactivation Techniques for MALDI-TOF MS Analysis of Highly Pathogenic Bacteria - A Critical Review

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Running title: Inactivation of HPB for MALDI-TOF MS

Keywords: Inactivation, Highly Pathogenic Bacteria, MALDI-TOF Mass Spectrometry, Identification, Gamma-Irradiation, Ethanol/Formic Acid Extraction, TFA Inactivation, Inactivation of spore formers

Abbreviations: BSL, biosafety level; CDC, Centers for Disease Control and Prevention; cfu, colony forming unit; DoD, Department of Defense; FA, formic acid; GLP, Good Laboratory Practice; HCCA, α-cyano-4-hydroxycinnamic acid; HPB, highly pathogenic bacteria; MALDI-TOF, Matrix-assisted laser desorption/ionization – time-of-flight; MS, mass spectrometry; PVDF, polyvinylidene fluoride; RC, regenerated cellulose; RF, logarithmic reduction factor; RKI, Robert Koch-Institute; SASP, small acid-soluble proteins; SNR, signal-to-noise ratio; SOP, standard operating procedure; SR, security related; TFA, trifluoroacetic acid

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