1. **High Performance Liquid Chromatography Antibiotic Residue Analysis in Kidney, Liver and Edible Meat Tissues.**

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**Abstract**

The administration of antibiotics orally or by injection for either prophylaxis or cures or both has facilitated successful management of bacterial infections. The efficacy of these diagnosis is dependent on judicious and appropriate administration otherwise may be residual in milk, meat and other edible animal products. Compliance to the maximum residue limits (MRLs) set by the World Health Organization (WHO) and the Food and Drug Administration (FDA) is crucial to avoid recurrent cases of multidrug resistance as well as allergic reactions in sensitive individuals. The inappropriate administration has been attributed to poor veterinary management and lack of adequate sensitization on the set FDA and WHO MRLs. This study will focus on oxytetracycline, streptomycin as well as diminazene residue levels in the kidney, liver and other edible meat tissues in cattle meat from major slaughter houses in contrast to the set FDA and WHO MRLs. Findings from this research will enable avoid overreliance on antibiotics, facilitate appropriate administration and enhance proper veterinary management practices. Extraction and analysis of extracted edible meat tissues to be carried in this study will exploit microbiology techniques, high performance liquid chromatography (HPLC) equipped with the UV-VIS detector SPD 20A and a solvent delivery module LC 20AT. HPLC being more sensitive has been previously exploited to establish tetracycline residue levels in bovine milk, broiler meat as well as the kidney, liver and other edible meat tissues in various geographical locations to establish their compliance to the set FDA and WHO MRLs (Bedada, Zewde, & Zewde, 2012), (Mesgari Abasi et al., 2009), (Abbasi, Babaei, Ansarin, Nourdadgar, & Nemati, 2011), (De Ruyck, De Ridder, Van Renterghem, & Van Wambeke, 1999).

Diminazene has been one of the successful curative drugs in the market for trypanosomiasis; manifested as nagana in livestock and sleeping sickness in humans. Trypanosomiasis is caused by trypanosomes mostly *Trypanosome brucei gambiense* species that accounts for about 98% of reported cases of sleeping sickness. It is transmitted by tsetse fly; glossina genus bites. Elevated residue levels are linked to overdosing, inappropriate route of administration and delayal of withdrawal period. Tetracycline is bacteriostatic and bovine mastitis curative and is prophylactic in sub therapeutical levels in cattle. Oxytetracycline and its derivative has been linked to optimal health sustainance in subtherapeutic levels and growth promotion in animals (Senyuva, Ozden, & Sarica, 2000). Streptomycin on the other hand is a narrow spectrum antibiotic targeting the gram negative bacteria. Its mechanism of activity entails impairment of bacterial protein synthesis by binding to the 16S rRNA of the 30S ribosomal subunit leading to codon misreading (Karanja, Mdachi, Jn, & Murungi, 2010). The levels of these antibiotics residues have to be monitored to ensure they comply with the set MRLs and manage complications associated with their elevated levels.