

## Lactic acid bacteria isolated from malaysian domestic non-broiler chicken producing antimicrobial proteins against methicilin-resistance Staphylococcus aureus (MRSA)

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This work reports on the isolation of Lactic acid bacteria (LAB) from non-broiler chicken, other than commonly used broiler chicken. Lactic acid bacteria (LAB) were isolated from the ceca, intestine, gizzard and bile of Malaysian non-broiler chicken 'ayam kampung'. Following the incubation on MRS agar plates, 56 LAB isolates were collected. Based on agar disk diffusion method, 5 out of 56 isolates; L3, L4, L5, L7 and L7 show inhibition against the indicator bacteria Methylene-resistant Staphylococcus aureus MRSA. All of the five isolates show typical characteristics of Enterococcus family which are Gram positive coccus morphology, non-spore forming, catalase negative, producing acid from glucose and able to grow on 4, 6 and 10% NaCl. Ability to produce inhibitory proteins using agar disk diffusion method were tested using three phase partitioning (TPP) purified fraction employing t-butanol and ammonium sulphate. The purified fraction produced zones of inhibition (approx. 16-18 mm in diameter) on indicator organism Staphylococcus aureus MRSA. The purified fraction contained putative low molecular weight proteins of about 8-10 kDa in size, as determined by SDS-PAGE. These putative proteins are stable upon heat treatments and inactivated by trypsin. The partial rDNA sequences from the 5 isolates showed to be at least 98% similarity with Enterococcus family. Isolates L3, L4, and L5 belonged to the E. faecum. Meanwhile, L7 and L10 belonged to E. faecalis and E. mundtii. These strains were exclusively isolated from non-broiler chicken; and they produce putative inhibitory proteins or bacteriocins against Staphylococcus aureus MRSA are useful as probiotic for chicken.

### Biography

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## Possible mechanisms of different drugs of abuse with HIV in pathophysiology of NeuroAIDS and its therapeutic approaches

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CNS infection by HIV-1 can result in NeuroAIDS which is a chronic disease with subsequent neurodegeneration that leads to several domains of neurocognitive impairment. NeuroAIDS is becoming a major health problem among AIDS patients and long-term HIV survivors. As per the recent estimates, approximately more than 5 million people have been infected with HIV in India out of which  $\geq 50\%$  show signs and symptoms of neuropsychiatric disorders. Exacerbation of these impairments is seen in HIV-1 patients associated drug abuse. Drug abusers with HIV-1 infection have higher viral loads, increased immunosuppression, more severe cognitive impairment, and neuropathological changes. Opioids, cocaine, cannabinoids, methamphetamine, alcohol and other substances of abuse have been implicated as risk factors for HIV infection as they all have potential to compromise host immunity and facilitate viral replication. CNS is protected by blood-brain barrier (BBB) and most of the brain cells are negative for receptors and co-receptors for HIV infections. Neurons have been found to be completely nonpermissive for HIV infection. Practically HIV should not produce any neurotoxicity. But vast prevalence of NeuroAIDS in HIV positive drug abusers has stimulated the minds of researchers to think about the role of psycho-stimulants in combined neurotoxicity and neuropsychiatric complications. In this review, we will discuss the mechanism of various drugs of abuse which are responsible for neuroAIDS. These drugs may synergize with the neurotoxic substances released during HIV infection. Hence future directions can be made for the therapeutic approaches of NeuroAIDS by targeting specific signaling and molecular processes.

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