## Abstract

*Piper nigrum* is a dried fruit and king of all spices, having its place in *Piperaceae* family and is known to have many therapeutic applications. Piperine is an alkaloid and is extracted from *Piper nigrum* (5-10%). Different amino acids are used as prodrugs, means they enhance the bioavailability and efficiency of different drugs. Piperine was extracted through Soxhlet apparatus, and was reflxed with methanolic KOH for 24 hours for the formation of piperic acid. Piperic acid was reflxed for 5 hours with ethanol with few drops of sulphuric acid for the synthesis of ethyl piperate. Esterification of aromatic amino acids (L-Tryptophan and L-Phenyl Alanine) was done by freshly distilled methanol in acidic medium. Piperic acid and methyl ester of L-Tryptophan was conjugated through amide bond or peptide coupling in catalytic amount of boric acid and toluene using Dean stark trap topped with reflux condenser. Characterization of the synthesized compounds was done by using spectroscopic techniques. All the synthesized compounds were screened for their antimicrobial activity against *Bacillus licheniformis* (Gram +ve) *Escherichia coli* (Gram -ve) by Agar Well Diffusion Method. The synthesized compounds found active against these two bacterial strains. But newly synthesized compound of piperine derivative *i.e* (R)-Methyl-2-((2E,4E)-5-(benzo[d][1,3]dioxol-6-y)penta2,4-dienamido-3-91H-indol-3-yl)propanoate exhibit maximum zone of inhibition of 20 mm against *Bacillus licheniformis* and 16mm against *Escherichia coli* as compared to reference drug Rifampicin that showed 18 mm zone of inhibition for *E. coli* and 16 mm zone of inhibition for *B. licheniformis* .