

Human Immunodeficiency Virus (HIV-1) Reverse Transcriptase inhibition by extracts of the *Phyllanthus Emblica*

Estari Mamidala

Infectious Diseases and Metabolic Disorders Research Lab, Kakatiya University, India

Human immunodeficiency virus type-1 (HIV-1) is the cause of acquired immune deficiency syndrome (AIDS), a major human viral disease with about 33.2 million people infected worldwide. The high cost of the HAART regimen has impeded its delivery to over 90% of the HIV/AIDS population in the world. The aim of the present study was to evaluate the invitro anti-HIV activity of *Phyllanthus emblica* plant extracts. Extracts were prepared from dried fruit in n-hexane, ethyl acetate and n butanol. Peripheral Blood Mononuclear Cells (PBMCs) isolated from healthy donors by ficoll-hypaque density gradient centrifugation method. A toxicity study was performed on all crude extracts by MTT assay using PBMCs isolated from whole blood. HIV-1 RT inhibition activity of the all solvent extracts of *Phyllanthus emblica* was determined. AQF and HXF fractions show highest inhibition of recombinant HIV-RT (91% and 89% respectively) at 1 mg/ml concentration. Chloroform (CFF) fraction shows highest inhibition of HIV-RT at 0.5 mg/ml and Carbon tetra chloride (CTF) fraction at 0.12 mg/ml concentration. The highest non-cytotoxic concentration (>95% cell viability) of HXF, CTF, CFF and AQF fractions are 0.02, 0.04, 0.02 and 0.02 mg/ml respectively. At 0.12 mg/ml and 0.5 concentrations 50% of the HIV-RT activity is inhibited in HXF and CTF fractions respectively. The fruit of *Phyllanthus emblica* extracts are shows anti-HIV-1 activity and this plant has great potential for developing useful drugs.

Biography

Dr. Estari Mamidala has completed his Ph.D at the age of 28 years from Kakatiya University. He is the Assistant Professor of Zoology, Kakatiya University, Warangal, Andhra Pradesh, India. He has attended more than 40 International and National conferences. He has published more than 30 papers in reputed journals. He has handled 6 research projects and awarded 12 M.Phils and one Ph.D.

estari08@gmail.com