Chapter 8
Conclusion
8. CONCLUSIONS

The present interdisciplinary study on 33 Indian medicinal plants for anti HIV and immunomodulatory properties has resulted in the following conclusions.

8.1. Eventhough several plants are indexed with possible properties of antimicrobial, immunomodulatory and blood purifying nature in literature, scientific analysis has proved that not all of them possess the properties listed or claimed. Hence well-designed scientific protocols should be applied for validating the claimed properties of Indian medicinal plants.

8.2. Tests for reverse transcriptase inhibition, protease inhibition and immunomodulatory properties have been successfully standardised in the study. These assay systems evolved can be adopted as reliable screening tests in anti infective drug testing laboratories.

8.3. Of the 33 Indian medicinal plants studied, five plants revealed HIV specific reverse transcriptase inhibition, namely Ocimum kilimandscharicum, Gmelina arborea Roxb, Pueraria tuberosa, Pterocarpus marsupium and Rubia cordifolia while only Ocimum kilimandscharicum, Plectranthus amboinicus and Rubia cordifolia had immunomodulatory potentials.

8.4. Out of all these plants only Plectranthus amboinicus had significant HIV-1 protease inhibitory property and immunomodulatory property for induction of both TH1 and TH2 responses.

8.5. A methodology of biology guided fractionation has been evolved in the study by combining chemical fractionation along with stage wise bio-assay protocol to pinpoint the bioactive fraction of the identified medicinal plant.

8.6. Adopting these methods, fraction 9 of Plectranthus amboinicus by column chromatography and sub fraction II and III of this column fraction by HPLC turned out to
be the localised mixture of compounds possessing reproducible HIV-1 protease inhibiting property and immunomodulatory property.

8.7. Phytochemical analysis of this bioactive fraction of *Plectranthus amboinicus* confirmed the fraction to be of flavanoids in nature.

8.8. Preliminary toxicology evaluation on cell cultures has shown *Plectranthus amboinicus* to be reasonably non toxic.