Chapter 5

Summary and Conclusion

SUMMARY

IN VITRO STUDIES

➢ Triphala treatment efficiently prevented the generation of lysosomal enzymes, pro-inflammatory cytokines, and inflammatory mediators (NO and PGE$_2$) in LPS stimulated RAW macrophage cells

➢ These findings were correlated with the inhibitory effect of triphala on the mRNA and protein expression of pro-inflammatory cytokines, inflammatory enzymes and transcription factor NF-κB via the up-regulation of HO-1 in LPS stimulated RAW macrophage cells.

IN VIVO STUDIES

➢ The outcome of in vivo studies confirms that treatment with triphala exerts a significant alteration in biochemical and immunological parameters in the paw tissues of adjuvant induced arthritic rats suggesting that triphala exhibits a strong anti-inflammatory effect

➢ Triphala treatment ameliorated bone and cartilage degradation observed in adjuvant-induced arthritic rats through the down regulation of pro- inflammatory cytokines, inflammatory marker enzymes, RANKL and transcription factor NF-κB and AP-1 expressions at both gene and protein level.

➢ Taken together, our findings provide evidence that triphala possesses potential anti-inflammatory applications necessary for the treatment of various inflammatory diseases.
CONCLUSION

In conclusion, the work described in this thesis has extensively broadened and added to our understanding about the mechanism of action of triphala in RA. Furthermore, uncovering specific inhibitory mechanism on inflammatory molecules involved in pathogenesis of RA, would open the possibility for promising therapeutic agents compared to conventional therapies. Therefore the study provides evidence in regards to improve sign and symptoms of RA and imparts scientific validation for triphala as a potent arthritic drug.