5 PLAN OF WORK

4.1 Phase I: Feasibility Studies

4.1.1 Compilation of technical database on the drug candidates
(a) Dosage and administration of the drug candidates
(b) Pharmacodynamic and pharmacokinetic profile of the drug candidates
(c) Clinical records
(d) Clinical efficacy and tolerability of the drug candidates

4.1.2 Development of analytical methods
(a) UV-Visible Spectrophotometry
(b) HPLC method

4.1.3 Interaction Profile of drug candidate

4.1.4 Evaluation of in-vitro (dissolution) and ex-vivo (permeation) studies by using cellophone membrane and animal tissues, respectively for different drug candidates.
(a) Determination of diffusion profile of the drug candidates using Franz diffusion cells.
(b) Profile correlation of different drug candidates for drug diffusion and drug permeation.
(c) Effect of donor cell drug concentration
(d) Effect of vehicles
(e) Effect of binary mixtures of the vehicles
(f) Effect of drug permeation through different animal tissues (goat and sheep)
4.2 Phase II: Optimization, Formulation and Development of Nanoethosomes
(a) Selection of methodology
(b) Selection of Polymers
(c) Optimization of the formulation
(d) Characterization and evaluation of optimized batches
(e) Stability profile of optimized batches

4.3 Phase III: Formulation and Development of Ethosomal Thermoreversible Mucoadhesive In-Situ Nasal Gel of Drug Candidates.

4.3.1 Formulation of ethosomes loaded thermoreversible mucoadhesive in-situ gel (Naratriptan, Eletriptan and Zolmitriptan).
(a) Selection of methodology
(b) Selection of thermoreversible polymer
(c) Determination of gelation temperature of thermoreversible polymer
(d) Selection of various polymers and other constituents
(e) Formulation of the ethosomal loaded insitu mucoadhesive gels
(f) Optimization of the formulation
4.3.2 Evaluation of the optimized ethosomes loaded thermoreversible mucoadhesive in-situ gel

(a) Gelation temperature

(b) Effect of polymers on phase transition temperature of thermoreversible gel

(c) Rheological study

(d) Mucoadhesive strength

(e) Gel strength

(f) pH

(g) Effects of formulation variables (polymer composition, dissolution and permeation profile of optimized formulation etc)

(h) In vitro evaluation of developed formulations (optimized)

(i) Ex-vivo permeation studies using animal tissues.

(j) Histopathological analysis

(k) Stability study