(12) PATENT APPLICATION PUBLICATION
(21) Application No.201911000021 A
(19) INDIA
(22) Date of filing of Application :01/01/2019
(43) Publication Date : 15/02/2019

(54) Title of the invention : GELUCIRE GASTRORETENTIVE MULTIPARTICULATES FOR TYPE II DIABETES

(51) International classification :A61K9/0065
(31) Priority Document No :NA
(32) Priority Date :NA
(33) Name of priority country :NA
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :
The present invention relates to studies on Gelucire based sustained release gastroretentive multiparticulates of antidiabetic drug(s) by dispersing Metformin(MH) in melted Gelucire and using the melt granulation technique while fast release solid dispersions gastroretentive multiparticulates of glibenclamide (GLB), poorly soluble drug were developed using Gelucire and PEG as carrier at different ratios. Kinetic modeling of in-vitro dissolution profiles revealed that glibenclamide (GIV) optimized formulation showed excellent buoyancy ability and better fast release behavior. Percent drug entrapment of MH was found to be in the range of 98 to 99% and in vitro floating ability was 11.3 h. Zero order kinetics was promising for all formulations. Characterization was done by SEM, FTIR and PXRD. RP-HPLC method was adopted for simultaneous pharmacokinetic analysis of the drugs in rat plasma. The prepared formulations were further successfully applied to bioequivalence study with standard drug products containing MH and GLB.

No. of Pages : 13 No. of Claims : 6