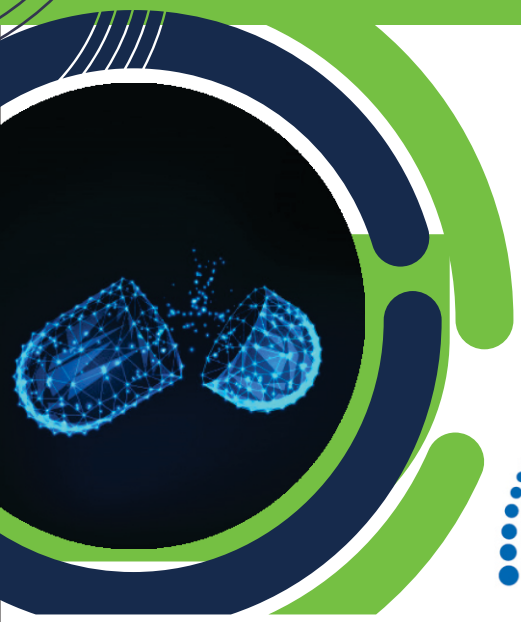

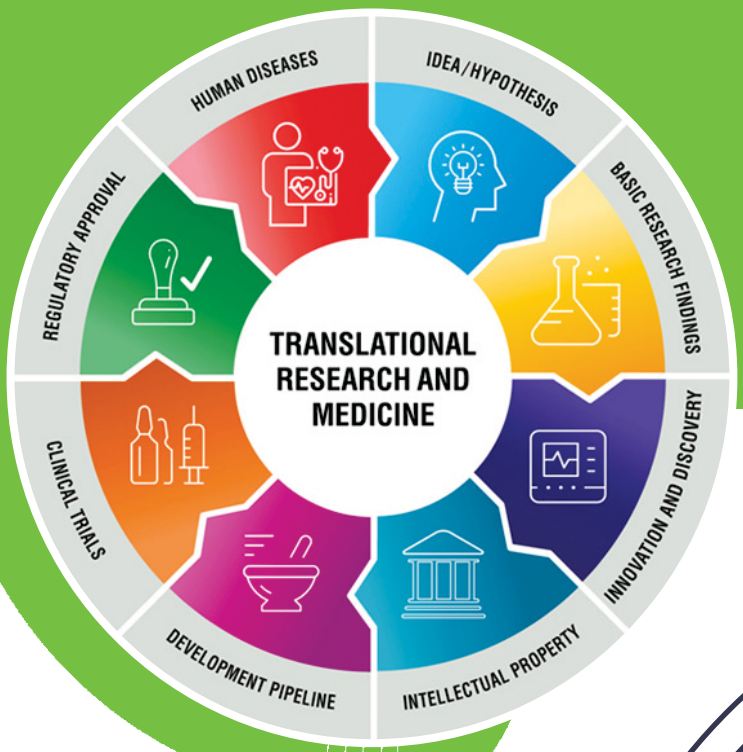

CRS
Indian Local Chapter

Controlled Release Society Indian Chapter

One Day National Seminar on

Translational Research: From Bench to Bedside

Sunday, 17th November, 2019

SOUVENIR & ABSTRACT BOOK

Organized by -

All Pharmacy Colleges
Affiliated to R.T.M. Nagpur University, Nagpur

Venue :
Hotel Tuli Imperial
Ramdaspeth,
Nagpur - 440 012.

NAGPUR
THE
ORANGE
CITY

CN: 14

CRS Indian Local Chapter

SOUVENIR

CRS IC Sponsored

One Day National Seminar on

"Translational Research – From Bench to Bedside"

17th November, 2019

Organized By All Pharmacy Colleges affiliated to R.T.M. Nagpur University, Nagpur

ENHANCEMENT OF SOLUBILITY & DISSOLUTION RATE OF RACECADOTRIL BY SOLID DISPERSION TECHNIQUE

Chaudhary D.V. *1, Mahajan N.M.2, Dumore N.G.1,LanjewarV. S.2

DadasahebBalpande College of Diploma in Pharmacy, Besa, Nagpur -440037, Maharashtra,

Dadasaheb Balpande College of Pharmacy, Besa, Nagpur -440037, Maharashtra, India

Abstract:

Aim and objectives: The aim of present work was to enhance the solubility and dissolution rate of poorly water soluble drug, Racecadotril by solid dispersion methods.Racecadotril is a BCS class-II drug and having low solubility which was practically observed. This could be the reason for the lower dissolution rate and this may attribute to its lower bioavailability.Methodology: Solid dispersion of Racecadotril were prepared with a carriers like poly vinyl pyrrolidone K30 (PVP K30), Poloxamer 188,-cyclodextrin by using melting, solvent evaporation method 1 : 1, 1 : 2, 1 : 3 ratios of drug and carrier, respectively. The formulations were further characterized for drug content, solubility, drug release studies. The interaction between drug and carrier was evaluated by using Fourier transform-infra red (FTIR) study. Powder X-ray diffraction (PXRD) studies were also carried out to find out the crystallinity of solid dispersion.Result and Discussions:The results of FTIR revealed that there was no existence chemical interaction between the drug and carriers.Solubility studies were performed using the distilled water and Phosphate buffer pH 6.8. It was observed that the solid dispersions have highest solubility compared to pure drug and physical mixture in both medium. The dissolution tests were performed using the USP dissolution apparatus type-I (Basket) in Phosphate buffer pH 6.8for 3-4 hour. Conclusion:solid dispersion of Racecadotril by using the water soluble carrier Poloxamer 188 in the ratio 1: 3 prepared by solvent evaporation method provide best release of drug (63.67% in 240 min.) among all the formulations, and this ratio can be used to enhance the solubility and dissolution rate of poorly water soluble drug Racecadotril.

Keywords

Racecadotril, Solid dispersion, Dissolution rate, Melting method, Solvent evaporation method.