

THEARTICLE REVIEW ON, CO-CRYSTALS IN DRUG DELIVERY SYSTEM

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Abstract- In recent year of the co-crystals plays an important role in pharmaceutical novel drug delivery system. Nowadays co-crystals are widely used to wide range of different side effects of conventional novel drug delivery system.

INTRODUCTION:

(CO-common/combine, CRYSTAL-small tiny particles)

Its states that a co-crystal is a crystalline structure composed of at least two components, where the components may be atoms, ions or molecules.

Co- crystals are small as well as tiny molecule which range in dimeter (100 to 1000nm) and it is mainly found in shape isometric, tetragonal, hexagonal, orthorhombic, monoclinic triclinic and prism shape etc.

Most of the co-crystal made up of by using two polymers:

- 1) natural polymer: example-2,4,6 trinitrobenzoic acid, indole3-acetic acid etc.
- 2) synthetic polymer: example-poly(lactic acid)(PLA), poly(glutamic acid)(PGA) etc.

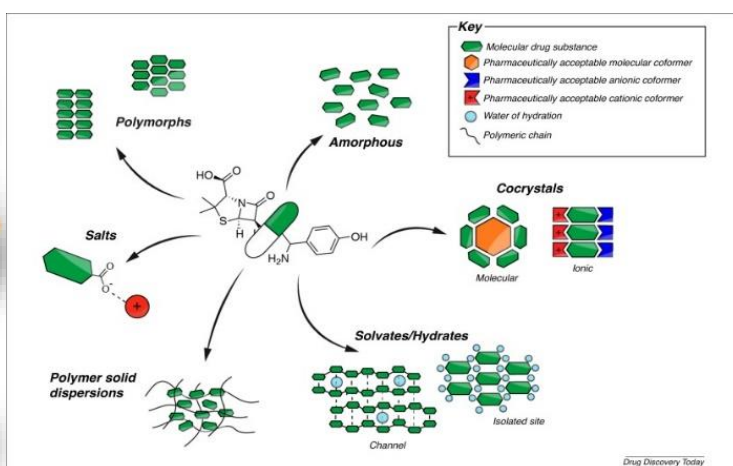


fig: -Pharmaceutical co-crystals

TYPES:

- 1) Anhydrates of co-crystals: example-2-methyl-4-nitroaniline, pyromellitic anhydride etc.
- 2) Hydrates (solvates) of co-crystals: example- trametinib, 10dapagliflozin, warfarin etc.
- 3) Anhydrates of co-crystals of salts: example-indole-3-acetic-acid, 2,4,6-tri-nitro-benzoic acid
- 4) Hydrates (solvates) of co-crystals of salts: examples- calcium chloride hexahydrates, sodium sulphates decahydrates.

Advantages:

- 1) Crystalline form more stable than compare to amorphous form
- 2) Co-crystal increased solubility; thus increased bioavailability
- 3) Technique can be used for purification of co-crystals

CONCLUSION:

- The more anti-hyperlipidaemic activity of co-crystals was found compared to pure drug
- Co-crystal enhances solubility thus promote the bioavailability.

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