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TASTE MASKED PHARMACEUTICAL COMPOSITION FOR CIPROFLOXACIN HYDROCHLORIDE PELLETS

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ABSTRACT

The present study aimed at developing a stable and effective taste masked formulation containing the drug Ciprofloxacin hydrochloride. Since Ciprofloxacin hydrochloride is known to be water soluble drug, variations in the integration and taste were observed while changing the pH .Taste masked pharmaceutical composition that includes Inorganic carrier and sweetener along with flavor, these methods attempt to restrict the bitter taste sensed by the patient.

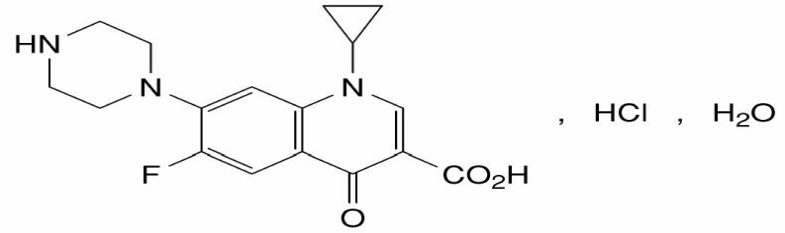
Keywords: Ciprofloxacin; Taste masking; Antibacterial agent.

INTRODUCTION

Ciproflaxacin hydrochloride acts as antibacterial agent, Chemically ciprofloxacin Hydrochloride is known as 1-cyclopropyl-6-fluoro-4-oxo-7-(piperazin-1-yl)-1,4-dihydroquinoline-3-carboxylic acid hydrochloride. It is reported in Drug and Tablet USP, BP, of the pharmacopoeias available**.** But its ready for suspension not available in the pharmacopeias. A survey of literature reveals that UV methods, are reported for the determination of U.V analysis of Ciprofloxacin Hydrochloride and Its application to Drug Quality Control Studies[1].

Solid-phase UV spectrophotometer method for determination of ciprofloxacin[2], In vitro and in vivo release of ciprofloxacin from PLGA 50:50 implants, In Vivo evaluation of Interaction Between Aqueous Seed Extract of Garcinia kola Heckel[3] and Ciprofloxacin Hydrochloride, Factorial design, physicochemical characterisation and activity[4] of ciprofloxacin-PLGA nanoparticles (100nm-150nm)[5]has been amply demonstrated in the literature.

Ciprofloxacin Hydrochloride Structure



1-cyclopropyl-6-fluoro-4-oxo-7-(piperazin-1-yl)-1,4-dihydroquinoline-3-carboxylic acid hydrochloride.

EXPERIMENTAL

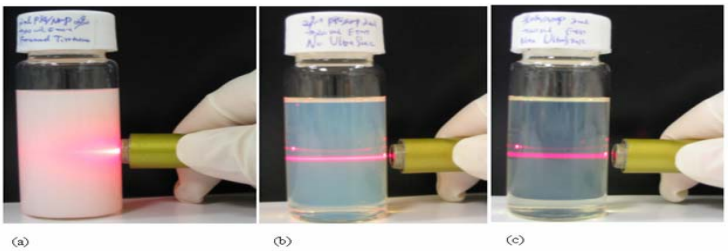
Process used Ingredient :

Ciprofloxacin Hydrochloride 275mg, Calcium oxide 250mg, Aerosil 75mg, Neotame 75mg, Strawberry flavor 75mg, Methyl paraben sodium 2mg, Propyl paraben sodium 0.5mg, Sucrose228 mg, Magnesium stearate 20mg and Sunset yellow 0.5mg, Total 1001.0mg.

Preparation of test solution :

2.5grams of solid material taken in to 50ml volumetric flask dissolved in 20ml of 0.1N Hydrochloric acid solution, and make up with the same up to the mark.

Test sample



Instrument: UV-VIS spectra, Shimadzu 2450. UV Probe Soft ware.

Chemicals and reagents :

Reference standard Ciprofloxacin Hydrochloride is procured from Dr. Reddy's pharma, Water (Distilled water), HCl from Qualigence

Apparatus	:	USP 23, method-2 (Paddle)
RPM	:	100
Medium	:	0.1N Hydrochloric acid
Temp	:	37 ±0.5°C

Place the 995 ml of 0.1N dissolution medium in to the vessel of apparatus specified in the individual monograph, assemble the apparatus. Equilibrate the dissolution medium to 37 ±0.5 deg.C, and remove the thermometer. Place the 5ml of each sample in each dissolution bowl of apparatus, taking care to exclude air bubbles from the surface of dosage-form unit, and immediately operate the apparatus at the rate specified in the individual monograph. In the specified time intervals, with draw 5ml of a specimen from a zone midway between the surface of dissolution medium and the top of rotation blade, not less than 1 cm from the top of the rotation blade, not less than 1 cm from the vessel wall. Replace the aliquots withdrawn for analysis with equal volumes of fresh dissolution medium at 37°C.

Procedure :

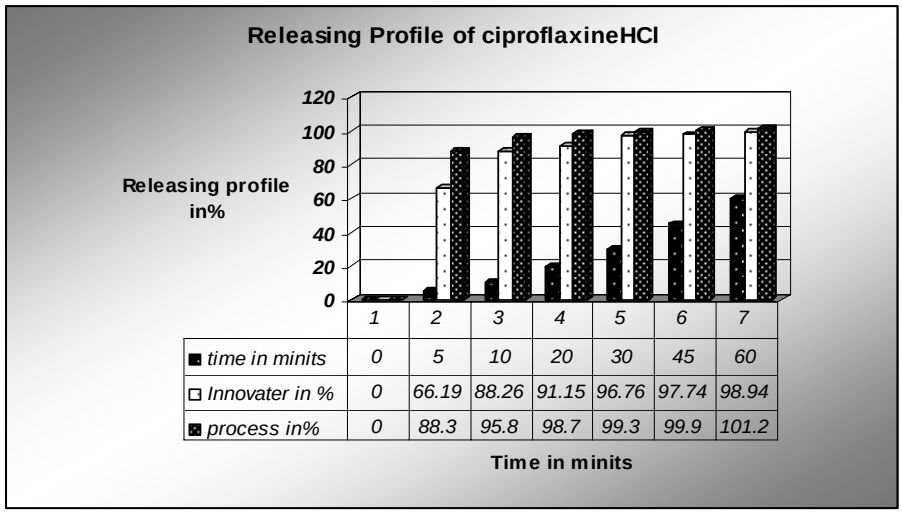
Filter the both standard and sample solutions through 0.45 micron nylon filter paper. From the filtrate, prepare equal concentrations (in ppm) of standard and test solutions and check the absorbance at 280 nm. Calculate the percent of ciproflaxacinehydrochloride released in respective time intervals based on assay content.

RESULTS AND DISCUSSION

Release Rates- Innovator and process:

Time in Minutes	Innovator (in %)	Process (in%)
0	0	0
5	66.19	88.3
10	88.26	95.8
20	91.15	98.7

30	96.76	99.3
45	97.74	99.9
60	98.94	101.2



Stability of the solid dosage form was studied at 25de±5 up to Seven days. Observation at 9A.M

Day	**Taste**	**Colour**	**State**	**Weight 25grm**
1st day	Taste was masked	yellow colour	Solid mass	25 gram
2nd day	No change	No change	No change	No change
3rd day	No change	No change	No change	No change
4th day	No change	No change	No change	No change
5th day	No change	No change	No change	No change
6th day	No change	No change	No change	No change
7th day	No change	No change	No change	No change

Above study revels that, it is usefull for the preparation of solid dosage form of ciproflaxine hydrochloride with good releasing profile and stability, for human use.

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