

Biopharmaceutics lab 6 part 2

In vitro dissolution study of per – oral tablet

Procedure (Dissolution study of nitrofurantoin tablets)

- Fill the jars with 1 L of dissolution fluid (artificial gastric juice)
- Put the jars in a thermostatically controlled water bath at 37 (switch water bath on)
- Place 1 tablet of nitrofurantoin in the basket of apparatus, and start the instrument immediately
- Set the speed on 50 r.p.m
- With draw 5 ml each 10 min for 1.5 hr

Notes

- stop apparatus for withdrawal.
- Substitute for the volume withdrawn each time interval using a fresh (artificial gastric juice) previously maintained at 37° C
- After withdrawal and replacement start instrument again
- Analyze samples of nitrofurantoin by reading the absorbance on a spectronic -20 at 369 nm ~370 nm immediately because nitrofurantoin solution discolored by exposure to light
- Use the following stright line equation to obtain the concentartion of y= c+bx , y= AB, X= conc.(mg/100ml), c=0.01, b=0.4

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Collection time (min)	Ab	Conc.(mg/ml)	Percent drug release
10			
20			
30			
40			
50			
60			
75			
90			

- To obtain percent drug release:
- Con.(mg/ml)X vol. of dissolution media =mg amount of drug released into the dissolution media
- % of drug released = amount of drug release /amount of drug in the tablet *100
- Plot the following graphs :
- 1. drug release % versus time in (min)
- 2. log % drug released versus time in (min)
- Find dissolution rate K from

the slope

K= slope * 2.303

• Note : amount of drug is equal to 100 mg in each tab





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