# Spectrophotometric Method for the Determination of *Lansoprazol*

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Received 30 December 1996
Accepted 19 April 1997

**A simple and sensitive spectrophotometric method for the determination of lansoprazol is described. The method involves the reaction of lansoprazol with p-dimethyl amino benzaldebyde in acidic medium. The method described is precise, accurate and reproducible and is extended to the analysis of capsule formulation.**

LANSOPRAZOL is a Proton pump inhibitor, used in the treatment of peptic ulcer and gastro-oesophagel reflex disease[1]. Few HPLC[2] methods have been reported for its determination. In the present communication, the development of a visible spectrophotometric methods and its application for routine analysis of lansoprozol in capsule formulation is described.

The required quantity of lansoprazol was weighed and dissolved in methanol to get a solution of final concentration of 10 mcg/ml. P-dimethyl amino benzaldehyde solution was prepared by dissolving 10 mg. of p-dimethyl amino benzaldehyde in 100 ml. of 6N HCl.

Aliquots of standard solution 0.5 ml. to 5 ml of lansoprazol and 1 ml of p-dimethyl amino benzaldehyde was added to a series of 10 ml, Volumetric flask. The content of each flask were mixed well and heated for 4 minutes on a boiling water bath and then cooled. The volume of the resulting solution was made upto 10 ml, with methanol. The absorbance of the solution was measured against a reagent blank at 445 nm using a Hitachi 2000 Spectrophotometer.

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The above method was used to determine lansoprazol in capsule formulation. Weighed accurately the mixed content of 20 capsule and amount equivalent to 50 mg of lansoprazol and dissolved in 50 ml of methanol and filtered. Further dilution was carried to get a concentration of 10 mcg/ml. These solutions were then assayed as described above. The drug content of the formulation was calculated using the standard curve. The result are presented in Table-1.

The study the accuracy, reproducibility and precision of the proposed method, recovery experiments were carried out by adding known quantities (20 mg) of pure lansoprazol to one of the pre- analysed dosage form and the mixture was analysed by the proposed method.

The colour solution exhibit $\lambda$max at 445 nm. The colour obeyd Beer's law in the concentration range of 0.5 - 5 mcg/ml and is stable for 4 hours. The percentage recovery was found to be 100.6 ± 0.7%. The value of Molar absorptivity was found to be $1.98 \times 10^4$ ($1\ mole^{-1}\ cm^{-1}$), which indicated that the reagent used is sensitive. The values of standard deviation and co-efficient of variation are 0.0562 and 0.701 respectively. The results indicate that the proposed method is sensitive, accurate, precise and

**Table 1**
**Analysis of Lansoprazol in Pharmaceutical Products**

| S. No. | Formulation | Labelled amount (mg) | Amount Found mg/tab | % recovery |
|---|---|---|---|---|
| 1. | C1 | 30.00 | 29.95 | 100.17 |
| 2. | C2 | 30.00 | 30.02 | 100.29 |

reproduciable and can conveniently be used for routine analytical work.

## REFERENCES


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