

## A REVIEW ON HPLC METHOD DEVELOPMENT

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**ABSTRACT**

Many different strategies of high performance liquid chromatographic method development are used today. This review outlines an approach for the method development and validation. HPLC is a sophisticated analytical technique, which separates the mixture of components. The separation is based on the Physical and chemical nature of the Compounds. The heart of the chromatography is column. The components are having different affinity towards the column. The interaction between the column and the selected compounds are driven by van der Waals force of attraction, Ionic or polar interactions. The selected mobile phase has significant impact on the separation. The basic buffer helps in ionization of acidic compounds and resulting in

reduction of the run time. The organic modifiers opted for the separation having good basicity, acts as a hydrogen bond acceptor towards the acidic compounds; therefore, it will retain an acidic analyte. The developed method must be selective and rugged for routine testing. The selectivity is established by performing forced degradation study. The result from the forced degradation can also be used to establish the stability indicating nature and to determine the degradation pathway of the molecule. The complete validation as per the ICH guideline helps to determine the fitness of the method.

**KEYWORDS:** HPLC, method development, method validation, force degradation studies.

**1.0 INTRODUCTION**

HPLC (High Performance Liquid Chromatography) is innovative, 21<sup>st</sup> generation advanced analytical technique used for all the analysis of compounds obtained from any living or nonliving source either in the form of chemical, drug or extracted byproduct, or secondary