



## Chromatographic Methods for Determination of Dipeptidyl peptidase-4 (DPP-4) inhibitors: A Review

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**Abstract :** Dipeptidyl peptidase-4 (DPP-4) inhibitors are a novel class of oral antidiabetics used in the treatment of type 2 of diabetes mellitus and work to enhance the effect of the incretin hormones. A wide range of analytical techniques that are useful in estimating DPP-4 inhibitors in biological matrices and pharmaceutical formulations are available. Analytical techniques such as ultraviolet spectrophotometry, Mass spectroscopy (MS), capillary electrophoresis, high Performance Liquid Chromatography (HPLC), high pressure thin layer chromatography (HPTLC), ultra-performance liquid chromatography (UPLC) and liquid chromatography-mass spectroscopy(LC-MS) have been reported for estimation of DPP-4 inhibitors in single and in combination with other drugs. This comprehensive review covers most of the chromatographic methods that are described for determination of alogliptin (ALG), vildagliptin (VIL) and linagliptin (LIN) in bulk, in different pharmaceutical dosage forms and biological matrices to till date. From the review it can be inferred that a large number of chromatographic methods have been developed, and HPLC-UV methods have been commonly used in the detection and evaluation of DPP-4 inhibitors.

**Keywords:** Alogliptin, Vildagliptin, Linagliptin, Chromatographic methods.

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