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Simultaneous Determination of Proposed Anti-HIV Combination Comprising of Elvitegravir and Quercetin in Rat Plasma Using the HPLC–ESI-MS/MS Method: Drug Interaction Study

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Abstract : Elvitegravir is the mainstay of anti-HIV combination therapy in most endemic countries presently. However, it cannot be used alone owing to its long onset time of action. 2-(3,4-dihydroxyphenyl)-3,5,7-trihydroxychromen-4-one (Quercetin: QU) is a polyphenolic compound obtained from Argeria speciosa Linn (Family: Convolvulaceae), an anti-HIV candidate. In the present study, a sensitive, simple and rapid high-performance liquid chromatography coupled with positive ion electrospray ionization-tandem mass spectrometry (LC-ESI-MS/MS) method was developed for the simultaneous determination elvitegravir and Quercetin, in rat plasma. The method was linear over a range of 0.2–500 ng/ml. All validation parameters met the acceptance criteria according to regulatory guidelines. LC–MS/MS method for determination of Elvitegravir and Quercetin was developed and validated. Results show the potential of drug–drug interaction upon co-administration this marketed drugs and plant derived secondary metabolite.

Keywords : anti-HIV resistance, extraction, HPLC-ESI-MS-MS, validation
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