Identification and Quantification of Camptothecin and Camptothecin Analogues in *Ophiorriza Mungos* Grown in Bibile Area in Sri Lanka

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Camptothecin (CPT), and camptothecin analogues are essential precursors of semisynthetic chemotherapeutic agents in cancer treatment. *Ophiorrhiza mungos* (*Dathketiya*) are used for the treatment of snake bites, ulcers, leprosy, and cancers in traditional and folk medicine. Hence the present study was focused on the identification and quantification of CPT and its analogues in *O. mungos* found in Bibile area. CPT and their analogues in roots, stem, leaves, and fruits were identified and quantified using thin-layer chromatography (TLC) and high-performance liquid chromatography (HPLC-DAD) techniques. The HPLC method was validated as per the ICH (International Council on Harmonisation) guidelines. The results showed that CPT, 9-methoxy CPT, and 10-methoxy CPT were present in all parts of the *O. mungos* plant. The root of *O. mungos* possessed the highest mean yield of CPT (780.59±78.29 μg/g, dr. wt) and 10-methoxy CPT (27.25±4.09 μg/g, dr. wt) and lower content of 9-methoxy CPT. The leaves contained the lowest CPT (283.79±19.08 μg/g, dr. wt) and 10-methoxy CPT (2.78±0.32 μg/g, dr. wt). The CPT and 10-methoxy CPT accumulation patterns remained as highest in root followed by fruits, stem, and leaves, respectively while that of 9-methoxy CPT was fruits > leaves > stem > root. In conclusion, the CPT content of *O. mungos* from Bibile location is two-fold more than what has been reported hitherto in the literature for the same species in the Western Ghats, suggesting that it can contribute partially to fulfil the current global demand to some extent, as the shrub has shorter productive time compared to tree sources of CPT.

Keywords: Camptothecin, *Ophiorriza mungos*, 9-methoxycamptothecin, 10-methoxycamptothecin