

Efficient and high-quality RNA isolation from metabolite-rich tissues of *Stevia rebaudiana*, an important commercial crop

ABSTRACT

Stevia rebaudiana, a perennial herb native to northeastern Paraguay, has gained immense attention globally over the recent decades due to the natural sweetness of its leaves. Like in most plants, this particular species contains high amount of secondary metabolites, thus rendering the isolation of high quality and quantity RNA extract for molecular applications rather challenging. An effective, high-yield and high-quality RNA isolation protocol for this economically important plant species was devised here based on the cetyltrimethylammonium bromide (CTAB) extraction method, with an additional genomic DNA (gDNA) removal step. DNA and other contaminants that may affect downstream applications were effectively removed. Our results exhibited that RNA samples isolated from the leaves and stems of *Stevia rebaudiana* using this improvised method are high in integrity and quality with RNA integrity number (RIN) of more than 8 and low in contaminants.

Keyword: Conventional method; Cetyltrimethylammonium bromide (CTAB); Lithium chloride; RNA extraction; RNA integrity