An Improved Method for the Isolation of Total RNA from *Avicennia germinans* Leaves

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Isolation of high-quality RNA of *Avicennia germinans* L. tissue is difficult due to high levels of phenols and other substances that interfere when using conventional procedures for the isolation. These substances not only decrease the yield but also the quality of RNA is almost poor. We present here a simple RNA protocol and fast methodology that effectively removes these contaminating substances without affecting the yield. The protocol developed is based on the SDS/phenol method with modifications including β-mercaptoethanol to prevent oxidation of phenolic complexes, and phenol/chloroform extraction is introduced to remove proteins, genomic DNA, and secondary metabolites, and co-precipitated polysaccharides. Both A_{260}/A_{230} and A_{260}/A_{280} absorbance ratios of isolated RNA were around 2 and the yield was about 0.3 mg g^{-1} fresh weight. Good-quality total RNA from leaves of *Avicennia germinans* could be easily isolated within 2 h by this protocol which avoided the limitation of plant materials and could provide total RNA for all kinds of further molecular studies.

Key words: Avicennia germinans L., RNA Isolation, SDS-TRIS