



**AN IMPROVED AND OPTIMIZED METHOD OF HIGH QUALITY RNA ISOLATION FROM RECALCITRANT PLANT *Ziziphus mauritiana* LAM FOR FUNCTIONAL GENOMIC STUDIES.**

**SRAVANI KONDURU<sup>1, 2</sup>, CHANDRA OBUL REDDY PULI<sup>1\*</sup>, JAYANNA NAIK BANAVATH,<sup>1</sup> VARAKUMAR PANDIT,<sup>1</sup> KRISHNA KUMAR GUDURU<sup>1</sup> AND CHANDRA SEKHAR AKILA<sup>2</sup>**

<sup>1</sup>Department of Botany, Yogi Vemana University, Vemanapuram Kadapa 516003 A.P. India

<sup>2</sup>Department of Biotechnology, School of Life Sciences, Yogi Vemana University, Vemanapuram Kadapa 516003 A.P. India

**ABSTRACT**

Isolation of high quality of RNA is prerequisite for functional genomics studies. It is quite difficult to get quality RNA from recalcitrant tissues, due to large amounts of secondary metabolites and other interfering compounds. We have encountered this problem in isolation of RNA from the *Ziziphus mauritiana* Lam which is a xerophytic plant. To overcome this problem, we have developed an improved CTAB-PVPP-LiCl method. In this protocol we have used insoluble PVPP for removal of polysaccharides and phenolic compounds and acidic phenol for efficient partition of RNA. In addition to these two modifications, 8M LiCl precipitation step was included for preferential precipitation of RNA. The RNA isolated was found to be of high quality from both roots and leaves of normal and abiotic stressed plants as evidenced from the downstream applications such as RT-PCR and qRT-PCR.

**KEYWORDS:** *Ziziphus mauritiana*, Polysaccharides, Polyphenols, RNA isolation, RT-PCR, qRT-PCR



**CHANDRA OBUL REDDY PULI**

Department of Botany, School of Life Sciences,  
Yogi Vemana University, Vemanapuram Kadapa 516003 A.P. India

\*Corresponding author

*Chandra Obul Reddy Puli*