Isolation of total RNA from ripe and unripe soursop (*Annona muricata* L.) fruit

Isabella Montenegro Brasil[1]*, Maria de Lourdes Oliveira Otoch[2], José Hélio Costa[3], Geraldo Arraes Maia[1], Maria da Guia Silva Lima[4], Birgit Arnholdt-Schmitt[6] and Dirce Fernandes de Melo[4]

[1] - Fruit and Vegetable Laboratory/Food Technology Department, Federal University of Ceará, Fortaleza, Ceará, Brazil.

[2] - Biology Department/University of Ceará State, Fortaleza, Ceará, Brazil.

[3] - Researcher of PRODOC/CAPES/ Biochemistry and Molecular Biology Department, Federal University of Ceará, Fortaleza, Ceará, Brazil.

[4] - Bioenergetics Laboratory/Biochemistry and Molecular Biology Department, Federal University of Ceará, Fortaleza,Ceará, Brazil.

[5] - Biocenter Klein Flottbek, Institute of Botany (AMP II), University of Hamburg, Germany. / EU Marie Curie Chair, ICAAM, University of Évora, 7002-5547002-554 Évora, Portugal

Correspondence to e-mail: Isabella@ufc.br

ABSTRACT

Soursop fruit tissue is known by its acidic pH and high levels of polysaccharides, polyphenolics and secondary metabolites. These conditions are recognized to interfere unfavorably with conventional methodologies for RNA isolation. We describe here a rapid and simple method for the isolation of total RNA from soursop fruit. RNA was extracted in less than 4 h through a combination of SDS/potassium acetate precipitation and selective binding on a silica-gel-based membrane (Qiagen) through microspin speed technology. In comparison to other methods applied for RNA extraction from soursop fruit, our protocol improved substantially RNA quality as well as RNA yield. The isolated RNA served as a robust template for RT-PCR analysis. Comparable RNA quality and yield per dry weight were obtained from unripe and ripe fruits. This makes the method appropriate to being used in studies on differential gene expression in post-harvest behavior.

Accepted 16 September, 2008

DOI:

Full article available: http://www.academicjournals.org/AJPS/abstracts/abstracts/abstracts2008/Sep/Brasil%20et%20al.htm