Abstract

Marine invertebrates such as soft corals are important sources of secondary metabolites with promising biomedical applications and commercial value. RNA isolation in conjunction with reverse-transcriptase polymerase chain reaction (RT-PCR) are valuable tools utilized to study the molecular elements involved in secondary metabolite production and functional genomics. Two total RNA extraction protocols were compared using fresh tissue and flash frozen preparations from the coral Pseudopterogorgia elisabethae and from its symbiont Symbiodinium sp. isolated using RNeasy minicolumns (Qiagen®) and Trizol reagent (Invitrogen®). In general, higher yields were obtained by using Trizol reagent when compared to RNeasy. No significant differences were observed in RNA yield when live or flash frozen tissue was used. However, flash frozen holobiont tissue isolated by Trizol resulted in the highest RNA yield of all preparations analyzed. To conclude, both protocols are suitable for RNA isolation. Trizol is recommended if higher yields are the primary concern, but RNeasy is recommended if time is an issue.