

Product Application

Manual Extraction of Total RNA (including miRNA) from Hair

Total RNA, including miRNA, was extracted from 1 or 3 human hairs using the ReliaPrep™ miRNA Tissue Miniprep Kit

Ki+·	PaliaPran™ miRNA Tissua Mininran Kit (Cat. #76211)	
NIL.	Kellarrep miking fissue miniprep kit (Cat. #20211)	This protocol was developed by Promega
Analyses:	QuantiFluor [®] RNA System; RT-qPCR for mRNAs and miRNA	Applications Scientists and is intended for research use only.
Sample Type(s):	Human hair roots stored in RNAlater	Users are responsible for determining suitability of the protocol for their application.
Input:	1 or 3 hairs	Further information can be found in Technical Manual #TM469, available
Materials Required:		at: <u>www.promega.com/protocols</u>
-	 RNA later Stabilization Solution (ThermoFisher Scientific) 	or by e-mailing technical services at techserv@promega.com

Tissue Tearor Homogenizer (Biospec Products)

Protocol:

- 1. Pluck human hairs from close to the scalp, trim to 1-1.5cm of the root end, and store in RNAlater at 4°C for up to one week prior to processing.
- Using tweezers, add 1 or 3 hairs to 200µl prepared Homogenization Solution + 1-thioglycerol (20µl 1-thioglycerol/ml Homogenization Solution) in a 1.5ml tube. Homogenize for 15 seconds using the Tissue Tearor with setting 6.
- Follow technical manual for the ReliaPrep[™] miRNA Tissue Miniprep Kit (TM469) starting at Section 6. RNA Isolation and Purification from Tissue Samples. Elute sample in 15µl nucleasefree water.



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Results:



RNA yield and amplifiability of RNA extracted from hair with the ReliaPrep™ miRNA Tissue Miniprep Kit. Panel A shows total yield of RNA from quadruplicate purification replicates from an input of 1 or 3 human hairs. Bars indicate the yield for each individual replicate and scatter points represent the average of the four purifications plus/minus standard deviation. Panel B. Shows amplification in a 1-step RT-qPCR reaction with primers targeting β-2-Microglobulin (B2M) mRNA. Panel C. Shows amplification in a 1-step RT-qPCR reaction with primers targeting keratin 78 (krt78) mRNA. Panel D. Shows amplification in a 2-step RT-qPCR reaction with TaqMan primers targeting miRNA-99a.