

a. RNA quality control parameters – NanoDrop data

<u>Method</u>	<u>Homogenization</u>	<u>n</u>	CARTILAGE			CHONDROCYTES		
			$A_{260}:A_{280}$	$A_{260}:A_{230}$	RNA yield	$A_{260}:A_{280}$	$A_{260}:A_{230}$	RNA yield
Trizol [®]	SC / RS	10	1.75 (0.89 – 3.47)	0.26	1.32 (0.56-3.61)	1.91 (1.19 – 2.37)	1.20	12.74 (3.32 – 37.16)
	MD	10	1.49 (1.06 – 1.76)	0.16	3.21* (2.98-3.54)			
RNeasy [™]	MD	10	1.36 (0.35 – 3.65)	0.11	0.49 (0.24-1.23)	2.01* (1.93 – 2.04)	1.42	3.44 (0.48 – 9.43)
Trizol [®] /RNeasy [™]	SC / RS	10	2.12 (1.48 – 3.36)	0.93	0.23 (0.14-0.80)			
			1.79* (1.62 – 1.98) #	0.59 #	0.92 (0.52-1.14)#			
RNAqueous [™]	MD	10	1.78* (1.68 – 1.85)	0.86	0.64 (0.44-1.24)			
			1.80* (1.72 – 1.93) #	1.00 #	0.80 (0.42-1.33)#			

b. Parameter cell yields after chondrocyte extraction from cartilage

<u>Material</u>	<u>Species</u>	<u>n</u>	<u>Cell yield [10⁶ chondrocytes per g cartilage]</u>
cartilage	human	20	4.75 (2.38 – 7.06)
cartilage	bovine	10	20.68 (10.7 – 21.57) #

Comparative analysis of different RNA isolation methods was performed using Trizol[®], RNeasy[™] Mini, Trizol[®]/RNeasy[™] Mini and RNAqueous-Midi[™]. Different homogenization variants were performed (scalpel_SC; microdismembrator_MD; rotor-stator_RS). The results are given as average values (*bold*) and the range of values (*in brackets*). RNA yield is specified in µg per 100 mg cartilage. After precipitation and washing the RNA was resuspend in different volumes of RNase-free water: 30µl (Trizol[®]), 20 µl (RNeasy[™]), 10 - 20 µl (Trizol[®]/RNeasy[™]) and 10 – 20 µl (RNAqueous[™]). On account of this, the results provided here are comparable with the results provided in Figure 1 (ng RNA per µl). The cell yield is specified in million chondrocytes per g cartilage. In general, the results are given as average values (*bold*) and the range of values (*in brackets*). Results of RNA isolation and cell extraction from bovine cartilage were marked with #. Analyses were performed with statistical software SPSS 10.0 for Windows (SPSS Inc., Chicago, IL, USA). Data were analyzed with Mann-Whitney U-test. Values of * p<0.05 were considered significant.