Table S1. ^{1}H NMR spectroscopy-based collagen and GAG determination in bovine cartilage as a function of the applied bovine nasal cartilage weight.

metabolite	initial weight bovine cartilage [mg/ml]	^{1}H NMR based metabolite weight [mg/ml]	mass ratio [1 10^{-3}]	average mass ratio [1 10^{-3}]	deviation from average mass ratio [%]
alanine	200	1.837	9.2	9.3	-0.7
	150	1.449	9.7		4.5
	100	0.890	8.9		-3.8
glycine	200	4.535	22.7	23.3	-2.8
	150	3.637	24.2		3.9
	100	2.307	23.1		-1.1
hydroxyl-proline	200	2.007	10.0	10.0	0.1
	150	1.557	10.4		3.6
	100	0.965	9.7		-3.7
proline	200	2.350	11.7	12.2	-3.3
	150	1.953	13.0		7.1
	100	1.169	11.7		-3.8
α-D-galactosamine	200	0.914	4.6	4.6	-0.4
	150	0.790	5.3		14.7
	100	0.393	3.9		-14.3
β-D-galactosamine	200	0.616	3.1	2.8	10.4
	150	0.425	2.8		1.6
	100	0.246	2.5		-12.0
α-D-glucosamine	200	0.094	0.5	0.4	6.4
	150	0.073	0.5		10.1
	100	0.037	0.4		-16.5
β-D-glucosamine	200	0.039	0.2	0.2	-14.5
	150	0.038	0.3		11.5

	100	0.024	0.2		3.0

A defined amount of cartilage was subjected to hydrolysis by DCl. After 10 days incubation, TSP of defined concentration was added as concentration standard. It can be seen that irrespective of the initial weight of the cartilage, the content of the quantified amino acids Ala, Gly, Hyp and Pro deviates, with one exception, within a five percent range only. For further details see Materials and Methods section.

Table S2. Amino acid determination of hydrolyzed horse tendon by ^{1}H NMR spectroscopy as measure of the collagen content.

monomer	initial weight horse tendon [mg/ml]	^{1}H NMR based monomer weight [mg/ml]	mass ratio [1 10^{-3}]	ratio to bovine cartilage
alanine	200	8.05	40.0	4.4
glycine	200	19.30	97.0	4.1
hydroxyl-proline	200	9.88	49.0	4.9
proline	200	10.08	50.0	4.1

In the last column, the determined contents are compared with the collagen content of bovine cartilage (cf. Tab. S1).