	ding relevant information on the used protocols.
Sample/Template	details
<u> </u>	Cultured human osteoarthritic chondrocytes, isolated enzymatically
Source	replacement surgery.
Method of preservation	No preservation; Total RNA was extracted directly from PBS washed micromass pellets or cell monolayers.
Storage time (if appropriate)	RNA was stored at -80°C and reverse transcribed into cDNA within one month. cDNA was stored at -80°C and analyzed within 1 year.
Handling	
Extraction method	Column based extraction method (innuPREP RNA Mini Kit (Analytik Jena, Germany)).
RNA: DNA-free	All primer pairs used are intron-spanning primers. Each RNA sample was examined for purity and quantity using the NanoDrop 1000. "Minur PT controls" were prepared from random RNA sampler
Concentration	Each RNA sample was examined for purity and quantity using the
Concentration	NanoDrop 1000. The process used for RNA isolation is periodically verified by
RNA: integrity	checking the RNA integrity of samples using microfluidics (Bicanalyzer). Not all samples were tested for the absence of inhibitors. However,
Inhibition-free	a representative set of samples was used to control for the absence of inhibitors using dilution series of target genes.
Assay optimisation/validation	
Accession numbers IL1B	NM 000576
COL2A1 COL1A1	NM_001844
ACAN SOX9	NM_001135 NM_000346
TIMP1 TIMP2	NM_003254 NM_002255
TIMP2 TIMP3	NM_00362
MMP1	NM_004168 NM_002421
MMP3 MMP13	NM_002422 NM_002427
LGALS1 LGALS3	NM_002305 NM_002306
LGALS8	NM_006499
Amplicon details	132 hn
COL2A1	377 bp
ACAN	1/9 pp 194 bp
SOX9 TIMP1	180 bp 195 bp
TIMP2 TIMP3	153bp 164 bp
SDHA MMP1	86 bp 144 bn
MMP3 MMP3	184 bp 77 bn
LGALS1	125 bp
LGALSS	91 bp
Primer sequence	
IL1B	torward CTTATTACAGTGGCAATGAGGATG
COL2A1 COL1A1	TGGTGGAGCAGCAAG CACTGGTGATGCTGGTCCTG
ACAN SOX9	ACTGGCGAGCACTGTAAC
TIMP1 TIMP2	AATTCCGACCTCGTCATCAG
TIMP3	GTACCGAGGCTTCACCAAGA
MMP1	CTGGAACAAGAGGGCATCTG
MMP3 MMP13	GGTGTGGAGTTCCTGATGTTG GTGGTGATGAAGATGATT
LGALS1 LGALS3	ATGGCTTGTGGTCTGGTC GTGCCTTATAACCTGCCTTTG
LGALS8	AACCCTGACGGCACTTAGC
	reverse
IL1B (012A1	AGTGGTGGTCGGAGATTCG
COLIAI	CGAGGTCACGGTCACGAAC
SOX9	CCCGTTCTTCACCGACTTCC
TIMP1 TIMP2	GTTGTGGGACCTGTGGAAGT GGGGGGCCGTGTAGATAAACT
TIMP3 SDHA	ACCTCTCCACGAAGTTGCAC CCACCACTGCATCAAATTCATG
MMP1 MMP3	TCCTGCAGTTGAACCAGCTA AGCCTGGAGAATGTGAGTGG
MMP13	TGTAGGATGGTAGTATGAT
LGALS3	GACTCICCTGTTGTTCTCATTG
LUALSO	
Probe sequence	no probes used All primers were subjected to BLAST analysis
Probe sequence In silico empirical Priming conditions	no probes used All primers were subjected to BLAST analysis Primers were used at 100 nM For cDNA synthesis, random RT primers were used as provided by the manufacture (fight Charactric TMA) Benard Transcription 75
Probe sequence In silico empirical Priming conditions	no probes used All primers were uselpeted to BLAST analysis Primers were used at 00 nM For CDMA synthesis, random RF primers were used as provided by the manufacture (High Capacity COM Reverse Transcription Rit (Applied Biosystems, Austria)). GPCR efficiences were determined using dilution series of CDMA
Probe sequence In silico empirical Priming conditions PCR efficiency	no probes used All primers were used to BLAST analysis Primers were used at 00 nM For CDNA synthesis, random RF primers were used as provided by the manufacture (High Capacity CDNA Revense Transcription Kit (Applied Biosystems, Austria)). PCR efficiencies of CDNA prepared from chordroyle mINA. Used efficiencies are given before in S.
Probe sequence In silico empirical Priming conditions PCR efficiency R18 COL241	no probles used All primers were used at 00 nM For CDNA synthesis, random RT primers were used as provided by the manufacture (High Capacity CoM Revense Transcription Rit (Applied Biosystems, Austria)). eQCR efficiencies were determined using diution series of CDNA prepared from chordcoyte mRNA. Used efficiencies are given below in % 95.1 92.4
Probe sequence In silico empirical Priming conditions PCR efficiency #18 COLAI ACON	no probes used no probes used All primers were used to BLAST analysis Primers were used to Do AM for GNA synthesis, random RT primers were used as provided by the manufacture (High Dapacity CMA) Reverse Transcription Rt [Agelief Biosystems, Austrial) [Agelief Biosystems Austrial)
Probe sequence In silico empirical Priming conditions PCR efficiency 4.18 COLM COLM COLM COLM COLM COLM COLM COLM	No probes used All primers were subjected to BLAST analysis Drimers were subjected to BLAST analysis Primers were used at 00 nM For CMA synthesis, random RT primers were used as provided by the main/ductive (High Capacity CMA) Reverse Transcription Kit (Explicit Biosystems, Austria) gen24 reflectives are given book in 5%. 95.1 92.4 92.4 10.0 100.3
Probe sequence In allico empirical Priming conditions PCR efficiency &18 COLAI COLAI ACM 50029 TRAP TRAP	no probes used All primers were used to BLAST analysis Primers were used at 00 nM For CDMA synthesis, random RF primers were used as provided by the manufacture (High Capacity CMA Revense Transcription Kit (Applied Broystems, Austria)). GPCR efficiencies were determined using diluton series of CDMA prepared from choradoxyle mINAL. Used efficiencies are given bedown in's 20.4 92.4 93.5 93.6 100.0 100.0
Probe sequence In sileo empirical Priming conditions PCR efficiency COLAI COLAI COLAI COLAI COLAI TOMPI TRAPI TRAPI SOLA	no probe sed no probe sed All primers were used to BLAST analysis Primers were used at 00 oM For CDNA synthesis, random RT primers were used as provided by the manufacture (High Capacity CMA Reverse Transcription Rit (Applied Biosystems, Austria)). GPC efficiencies were determined using Biulions series of CDNA prepared from choradoxyte mRNA. Used efficiencies are given below in K 95.1 95.1 95.1 95.1 96.5 100.0 100.0 100.3 101.5 95.9 100.0
Probe sequence In silico empirical Priming conditions PCR efficiency 001241 0000000000	No probes used All primers were subjected to BLAST analysis Drimers were used at 00 nM For CMA synthesis, random RF primers were used as provided by the main/ductive (High Dapacity CMA Reverse Transcription KI Legicitel Biosystems, Austria) #QCM efficiency #QCM efficiency <
Probe sequence In silico empirical Priming conditions PCR efficiency COUA COUA COUA COUA COUA COUA COUA COUA	no protes used No protes used All primers were used to BLAST analysis Primers were used at 00 oM For CDMA synthesis, random RF primers were used as provided by the manufacture (light) Capacity CDMA Reverse Transcription R1 (Applied Bioxytems, Austrial). POR efficiencies were determined singli obios series of CDMA prepared from chandloged with Und efficiencies are given before 95.4 95.4 95.5 100.0 100.5 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 95.5 100.0 10.5 10.6
Probe sequence In silico empirical Priming conditions PCR efficiency COLAN COL	no protes used no protes used All primers were used to BLAST analysis Primers were used at 00 nM For CDNA synthesis, random RF primers were used as provided by the manufacture (kijkh Capacity CDNA Revense Transcription Kit (Applied Broystems, Austria)). #CR efficiencies were determined using diutions series of DNA prepared from chordroxyle mINA. Used efficiencies are given bedron in 5. 80.2 80.2 90.6 100.0 100.3 100.3 100.3 100.3 90.3 90.9 90.9 90.9 90.9 90.9 90.9 90.9 90.9 90.9 90.9 90.9 90.9 90.5 100.6 90.3 90.9 90.5 101.6 90.3 90.5 101.6 90.5 101.6 90.5 101.6 90.5 101.6 90.5 101.6 90.5 101.6 90.5 101.6 90.5 101.6 90.5 101.6 90.5 101.6 90.5 101.6 90.5 101.6 101
Probe sequence In silico empirical Priming conditions PCR efficiency KLB COL2A1 COL1A1 ACM SOM TOMP TOMP TOMP TOMP TOMP SOMA MODET IGALS3 LGALS3 LGALS3	no probes used All primers were used at 00 nM For CMA synthesis, random RF primers were used as provided by the manufacture (igi6) Capacity CAR Reverse Transcription Kit (Applied Biosystems, Austria)). #QR efficiencies of CMA prepared from chordcoyte mRNA. Used efficiencies are given below in % 65.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0
Probe sequence In silico empirical Priming conditions PCR efficiency 602241 COLA1 ACM 50X9 TRMP9 TRMP9 50HA MMP1 MMP1 164519 164519 164519	No probes used All primers were used to BLAST analysis Drimers were used at 00 nM For CMA synthesis, random RT primers were used as provided by the main/ductive (kgl/6 packy) CMA Revers Transcription R1 (kgl/call by the synthesis, and the synthesis and the sy
Probe sequence In silico empirical Priming conditions PCR efficiency 4.8 COLAN COLAN COLAN COLAN COLAN SOLAN	no protes used no protes used All primers were subjected to BLAST analysis Primers were used at 00 AM for CDMA synthesis, random RF primers were used as provided by the manufacture (light) Capacity CDMA Reverse Transcription KI (Applied Bioxytems, Austrial) (Applied Bioxytems, Austrial) degree of thermiced sing Biotion series of CDMA prepared from charadopted by Austrial bools be 10.2 92.4 93.5 10.0 93.9 93.9 93.9 93.9 93.5 10.16 93.5 10.16 93.5 10.6 93.5 10.6 95.5 10.6 95.5 10.6 95.5 10.6 95.5
Probe sequence In silico empirical Priming conditions PCR efficiency 602A1 602A1 602A1 602A1 7069 7069 7069 7069 7069 7069 7069 7069	no protes used All primers were used to BLAST analysis Primers were used at 00 nM For CMA synthesis, random RF primers were used as provided by the manufacture (kglic Dapacity CMA Reverse Transcription Rit (Agglied Biosystems, Austria)) geR efficiencies were determined using dilution series of CMA prepared from charakoge mNAA. Used efficiencies are given bb mR NA. Used efficiencies are given a
Probe sequence In silico empirical Priming conditions PCR efficiency ALB COLIAI COLIA	No probe used No probe used No probe used All primers were subjected to BLAST analysis Primers were used at 00 MM For CMA synthesis, nadion RT primers were used as provided by Provided the problem of the primers were used as provided by Provided the problem of the primers were used as provided by Provided the problem of the primers were used as provided by Present from chandrocrise mRN. Used efficiencies are given before in %. So.1 So.1 So.5
Probe sequence In silico empirical Priming conditions PCR efficiency ELS COLDAL	No probes used No probes used All primers were subjected to BLAST analysis Primers were used at 00 nM For CMA synthesis, random AT primers were used as provided by Provided the synthesis, random AT primers were used as provided by PCR efficiencies (High Capacity CMA Reverse Transcription NI (Applied Booystems, Austrial) 95.1 95.1 95.1 95.1 95.1 95.3 95.9
Probe sequence In silico empirical Priming conditions PCR efficiency 4.8 COLA1 COLA	No probes used No probes used All primers were subjected to BLAST analysis Primers were used at 00 AM For CDNA synthesis, random RF primers were used as provided by the manufacture (kgh Capacity CDNA Reverse Transcription KI (Agelied Biosystems, Austrial). Post CDNA synthesis, random SH primers were used as provided by Post CDNA synthesis, random SH primers were used as provided by Post CDNA synthesis, random SH primers were used as provided by Post CDNA synthesis, random SH primers were used as provided by Post CDNA synthesis, random SH primers were used as provided by Post CDNA synthesis, random SH primers were synthesis and the primers of CDNA pripared from characteristic synthesis and the primers were synthesis and the primers were synthesis and the primers of the primers were synthesis and the primers and the primers primers primers (PAN SYNTH) Post CDNA synthesis and the primers were synthesis and the primers and the primers were synthesis and the primers primer (PAN SYNTH) Post CDNA synthesis and the primers were synthesis and the primers and the primers primers primers (PAN SYNTH) Post CDNA synthesis and the primers and the primers and the primers and the primers primers (PAN SYNTH) Post CDNA synthesis and the primers primers (PAN SYNTH) Post CDNA synthesis and the primers and the primers (PAN SYNTH) Post CDNA synthesis and the primers and the primers primers (PAN SYNTH) Post CDNA synthesis and the primers and the primers (PAN SYNTH) Post CDNA synthesis and the primers and the primer
Probe sequence In silco empirical Priming conditions PCR efficiency	O protes used O protes used All primers were used to BLAST analysis Primers were used at 00 AM For CDNA synthesis, random RT primers were used as provided by Proceedings of the State of th
Probe sequence In silico empirical Priming conditions PCR efficiency ALB COLAA COLA	No probes used All primers were used at 00 MM For CMA synthesis, random RT primers were used as provided by the main/facture (HgA) Daga(12) MAR Revers Transcription KI Legisliel Biosystems, Austrial). For CMA synthesis, random KT primers were used as provided by program of the main/facture (HgA) Daga(12) MAR Revers Transcription KI Legisliel Biosystems, Austrial). #GR 2014 Section 100 MAR Revers Transcription KI Legisliel Biosystems (HgA) Daga (12) MAR Revers Transcription KI Legisliel Biosystems (HgA) Daga (12) MAR Revers Transcription KI Legisliel Biosystems (HgA) Daga (12) MAR Revers Transcription KI Legisliel Biosystems (HgA) Daga (12) MAR Revers Transcription KI Legisliel Daga (12) MAR Revers Transcription KI Legisliel Biosystemics of MgA) Daga (12) MAR Revers Transcription KI Legisliel Daga (12) MAR Revers Transcription KI Legisliel Daga (12) MAR Revers Transcription KI Legisliel Biology (13) MAR Revers Transcription KI Legisliel Biology (13) MAR Revers Transcription KI Legisliel Biology (13) MAR Revers Transcription Markets Containing 1 Jul CNA LIS 2 Jul Leadion mittures Containing 1 Jul CNA LIS Jul Leadion mittures Containing 1 Jul CNA LIS Jul Leadion Markets Biology (13) MAR Revers Transcription KI Legisliel Biology (13) MAR Revers Transc
Probe sequence In silico empirical Priming conditions PCR efficiency 4.18 COLAN COLAN COLAN COLAN COLAN SORS TRAP1 TRAP2 TRAP2 TRAP3 TRAP	No probe used No probe used All primers were used to BLAST analysis Primers were used at 00 nM For CMA synthesis, random RT primers were used as provided by Provided the problem of the primers were used as provided by Provided the primers were used the primers by Provided the primers by synthmic were reverse transcription mixtures Provided the primers by the primers by the primers by Provided the primers by the primers by the primers by Provided the primers by the primers by the primers Provided the primers by the primers by Provided the primers by the primers by Provided the primers by the primers by Provided the provided the primers Provided the primers
Probe sequence In silico empirical Priming conditions PCR efficiency 4.8 COLA1 COLA	No probes used All primers were used to BLAST analysis Primers were used at 00 AM For CDMA synthesis, random RF primers were used as provided by the manufacture (High Capacity CDMA Reverse Transcription KI (Applied Biosystems, Austrial). PGCR efficiencies were intermined in the single of the manufacture were extermined using Biolino series of cDMA prepared from chandrodenia by the single of t
Probe sequence In silico empirical Priming conditions PCR efficiency ALB COLIAI COLIA	No probe used All primers were subjected to BLAST analysis Demonstration of the subject of the BLAST analysis For CMAA synthesis, random RT primers were used as provided by the main/facture (High Capacity CMA Reverse Transcription KI Legislied Blooxtems, Austrial). PGR CMAA synthesis, random RT primers were used as provided by prepared from choodworker mRNA. Used Enclored case given below in %. 96.5.1 96.5.1 96.5.1 96.7 96.7 96.8 96.9 96.9 96.7 96.8 96.7 96.8 96.9 96.7 96.8 96.7 96.8 96.7 96.8 96.7 96.8 96.7 96.8 96.7 96.8 96.7 96.8 96.7 96.8 96.7 96.8 96.7 96.8 96.7 96.7 96.8
Probe sequence In silco empirical Priming conditions PCR efficiency ALB COLAA COLAAA COLAAAA COLAAAA COLAAAA COLAAA COLAAA COLAAAA COLAAAA COLAAAA COLAAAAAAAAAA	No probes used All primers were used at 00 MM For CMA synthesis, random RF primers were used as provided by the main/facture (HgA Dapacity CMA Reverse Transcription KI Legislied Bioxytems, Austria). For CMA synthesis, random RF primers were used as provided by prepared from choodropte mINA. Used Following Signal Signa Signa Signa Signal Signal Signal Signa Signal Signal Signa Sig

SDHA vith pri as selected as stable refe ary chondrocytes under ti iditions of this study.