

Supplementary file S2.

Description of the experimental details of the RT-qPCR analyses according to the checklist of the MIQE guidelines.

The items in the checklist summarize the characteristics of the RT-qPCR analyses according to Bustin et al. [Clin Chem (2009) 611-622] and indicate where the details are described in the manuscript.

| ITEM TO CHECK | IMPOR-TANCE | CHECK-LIST | WHERE IN THE MANUSCRIPT; ADDITIONAL COMMENT |
|---|-------------|------------|---|
| EXPERIMENTAL DESIGN | | | |
| Definition of experimental and control groups | E | Yes | Materials and Methods: Patients and tissue samples. |
| Number within each group | E | Yes | Materials and methods: Patients and tissue samples. See also: Number and concordance of biological replicates. |
| Assay carried out by core lab or investigator's lab? | D | Yes | All assays were performed in investigator's lab. |
| Acknowledgement of authors' contributions | D | Yes | Contributors who do not meet the authorship as defined by the journal are listed in the Acknowledgement section. |
| SAMPLE | | | |
| Description | E | Yes | Materials and Methods. |
| Volume/mass of sample processed | D | Yes | Materials and Methods: RNA isolation and cDNA synthesis |
| Microdissection or macrodissection | E | Yes | Materials and Methods: RNA isolation and cDNA synthesis; macrodissections with histological verification. |
| Processing procedure | E | Yes | Materials and Methods: Tissue samples. |
| If frozen – how and how quickly? | E | Yes | Materials and Methods: Tissue samples. |
| If fixed – with what, how quickly? | E | N/A | - |
| Samples storage conditions and duration (esp. for FFPE samples) | E | Yes | Materials and Methods: Tissue samples. |
| NUCLEIC ACID EXTRACTION | | | |
| Procedure and/or instrumentation | E | Yes | Materials and Methods: RNA isolation and cDNA synthesis. References are indicated. |
| Name of kit and details of any modifications | E | Yes | Materials and Methods: RNA isolation and cDNA synthesis. "miRNeasy Mini Kit" (Qiagen, Hilden, Germany) Cat. No.217004 |
| Source of additional reagents used | E | No | - |
| Details of DNase or RNase treatment | E | Yes | Treatment was not used |
| Contamination assessment (DNA or RNA) | E | Yes | Materials and Methods: RNA isolation and cDNA synthesis |
| Nucleic acid quantification | E | Yes | Materials and Methods: RNA |

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| | | | isolation and cDNA synthesis |
| Instrument and method | E | Yes | Materials and Methods: RNA isolation and cDNA synthesis |
| Purity (A260/A280) | D | Yes | Materials and Methods: RNA isolation and cDNA synthesis |
| Yield | D | Yes | Materials and Methods: RNA isolation and cDNA synthesis |
| RNA integrity method/instrument | E | Yes | Materials and Methods: RNA isolation and cDNA synthesis; Bioanalyzer 2100 (Agilent). |
| RIN/RQI or Cq of 3' and 5' transcripts | E | Yes | RIN values given in Materials and Methods: RNA isolation and cDNA synthesis. |
| Electrophoresis traces | D | No | - |
| Inhibition testing (Cq dilutions, spike or other) | E | Yes | Dilution experiments were performed; PCR efficiencies were found 90%-98%; see also Supporting Information: Supplementary file S3. For all clinical samples, identical isolation procedures were performed. |
| REVERSE TRANSCRIPTION | | | |
| Complete reaction condition | E | Yes | Materials and Methods: Quantitative real-time PCR. Supporting Information: Supplementary file S1; table 1. |
| Amount of RNA and reaction volume | E | Yes | Materials and Methods: Quantitative real-time PCR. Supporting Information: Supplementary file S1; table 1. |
| Priming oligonucleotide (if using GSP) and concentration | E | Yes | Materials and Methods: Quantitative real-time PCR. Supporting Information: Supplementary file S1; table 3. |
| Reverse transcriptase and concentration | E | Yes | Materials and Methods: Quantitative real-time PCR. Supporting Information: Supplementary file S1; table 1. |
| Temperature and time | E | Yes | Materials and Methods: Quantitative real-time PCR and reference indicated there. Supporting Information: Supplementary file S1; table 2. |
| Manufacturer and reagents and catalogue numbers | D | Yes | Materials and Methods: Quantitative real-time PCR. Supporting Information: Supplementary file S1; table 1. |
| Cqs with and without RT | D* | Yes | There were no Cqs < 40 in reactions without RT. |
| Storage conditions of cDNA | D | Yes | cDNA stored at -20°C. |
| qPCR TARGET INFORMATION | | | |
| If multiplex, efficiency and LOD of each assay | E | N/A | - |
| Sequence accession number | E | Yes | Supporting Information: Supplementary file S1; table 3. |
| Location of amplicon | D | N/A | Supporting Information: Supplementary file S1; specificity guaranteed by the manufacturer. |
| Amplicon length | E | N/A | Supporting Information: |

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| | | | Supplementary file S1; specificity guaranteed by the manufacturer. |
| <i>In silico</i> specificity screen (BLAST, etc.) | E | N/A | Specificity guaranteed by the manufacturer. |
| Pseudogenes, retropseudogenes or other homologs? | D | N/A | Specificity guaranteed by the manufacturer. |
| Sequence alignment | D | N/A | - |
| Secondary structure analysis of amplicon | D | N/A | - |
| Location of each primer by exon or intron (if applicable) | E | Yes | Use of mRNA specific UPL assays; specificity guaranteed by the manufacturer. |
| What splice variants are targeted? | E | Yes | Supporting Information: Supplementary file S1; table 3. |
| qPCR OLIGONUCLEOTIDES | | | |
| Primer sequences | E | N/A | Supporting Information: Supplementary file S1; table 3. |
| RT Primer DB Identification Number | D | N/A | - |
| Probe sequences | D** | N/A | - |
| Location and identity of any modifications | E | Yes | Supporting Information: Supplementary file S3; table 3. |
| Manufacture of oligonucleotides | D | Yes | TIB MOLBIOL Syntheselabor GmbH. |
| Purification method | D | N/A | - |
| qPCR PROTOCOL | | | |
| Complete reaction conditions | E | Yes | Materials and Methods: Quantitative real-time PCR. Supporting Information: Supplementary file S1; table 4 and 5. |
| Reaction volume and amount of cDNA/DNA | E | Yes | Materials and Methods: Quantitative real-time PCR. Supporting Information: Supplementary file S1; table 4. |
| Primer, (probe), Mg ⁺⁺ and dNTP concentration | E | Yes | Materials and Methods: Quantitative real-time PCR. Supporting Information: Supplementary file S1; table 4. |
| Polymerase identity and concentration | E | Yes | Materials and Methods: Quantitative real-time PCR. Supporting Information: Supplementary file S1; table 4. |
| Buffer/kits identity and manufacture | E | No | Materials and Methods: Quantitative real-time PCR. Supporting Information: Supplementary file S1; table 4. |
| Exact chemical constitution of the buffer | D | Yes | The manufacturer does not provide this information. |
| Additives (SYBR Green I, DMSO, ect.) | E | Yes | Assays without additional additives. |
| Manufacturer of plates/tubes and catalog number | D | Yes | Materials and Methods: Quantitative real-time PCR; Supporting Information: Supplementary file S1; table 4. |
| Complete thermo cycling parameter | E | Yes | Materials and Methods: Quantitative real-time PCR. Supporting Information: |

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| | | | Supplementary file S1; table 5. |
| Reaction setup (manual/robotic) | D | Yes | Manual setup. |
| Manufacturer of qPCR instruments | E | Yes | LightCycler 480; see also Materials and Methods: Quantitative real-time PCR. |
| qPCR VALIDATION | | | |
| Evidence of optimization (from gradients) | D | Yes | Kits from Roche Diagnostics GmbH. Optimization guaranteed by the manufacturer. |
| Specificity (gel, sequence, melt, or digest) | E | Yes | Specificity guaranteed by manufacturer. |
| SYBR Green I, Cq of the NTC | E | Not applicable | - |
| Calibration curves with slope and Y-intercept | E | Yes | Material and Methods: Quantitative real-time PCR; see also Supporting Information: Supplementary file S3. |
| PCR efficiency calculated from slope | E | Yes | Material and Methods: Quantitative real-time PCR; see also Supporting Information: Supplementary file S3. |
| Confidence interval PCR efficiency or standard error | D | Yes | Supporting Information: Supplementary file S3. |
| r ² of standard curve | E | No | Not provided by the LightCycler 480 software. |
| Linear dynamic range | E | Yes | Supporting Information: Supplementary file S3. |
| Cq variation at lowest concentration of the linear interval of calibration curves | E | Yes | Supporting Information: Supplementary file S3. |
| Confidence intervals throughout range | D | No | - |
| Evidence for limit of detection | E | Yes | Supporting Information: Supplementary file S3. Measurements of all were in linear dynamic range. Thus, it was not necessary to determine the LOD. |
| If multiplex, efficiency and LOD of each assay | E | N/A | - |
| DATA ANALYSIS | | | |
| qPCR analysis program (source, version) | E | Yes | Materials and Methods: Quantitative real-time PCR. |
| Cq method determination | E | Yes | Cq >37 was decided as limit. |
| Outlier identification and disposition | E | Yes | There were no outliers. |
| Results of NTCs | E | Yes | NTC did not result in any amplification. |
| Justification of number and choice of reference genes | E | Yes | PBGD was used as reference gene. Supporting Information, Supplementary file S1; Reference genes. |
| Description of normalization method | E | Yes | Materials and Methods: Data analysis; GenEx v. 4.3.7. |
| Number and concordance of biological replicates | D | Yes | Legend of figure 3: adjacent nonmalignant samples n = 50; tumor samples n = 50. |
| Number and stage (RT or qPCR) of technical replicates | E | Yes | Materials and Methods: Quantitative real-time PCR; triplicate measurements. |
| Repeatability (intra-assay | E | Yes | Materials and Methods: |

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| variation, %CV) | | | Supplementary file S1; RT-qPCR. |
| Reproducibility (inter-assay variation, %CV) | D | N/A | - |
| Power analysis | D | No | - |
| Statistical methods for result significance | E | Yes | Materials and Methods: Data analysis. Results and Figure legends. |
| Software (source, version) | E | Yes | Materials and Methods: Data analysis. |
| Cq or raw data submission RDML | D | No | - |

E, essential information that must be submitted with the manuscript; D, desirable information that should be submitted with the manuscript if available.