AKR7A3 suppresses tumorigenicity and chemoresistance in hepatocellular carcinoma through attenuation of ERK, c-Jun and NF-κB signaling pathways

Supplementary Materials

Supplementary Table S1: Sequences of primers used in this study

| Primers for real-time quantitative PCR (qPCR) | Sequence (5′-3′) | Product Size (bp) | Tm (°C) |
|---------------------------------------------|------------------|-------------------|---------|
| qRT-AKR7A3 Forward                          |GCCCACTGTGTACCAGGGCATGTA | 171   | 60     |
| qRT-AKR7A3 Reverse                          |CCCACGGGCTGTTCCTCCATTCT   |        |        |
| qRT-18S Forward                             |CTCTTAGCTGAGTGTCGCCG   |        |        |
| qRT-18S Reverse                             |CTGATCGTCTCTGACACCCTCC   |        |        |

| Primers for gene cloning                   | Sequence (5′-3′) | Product Size (bp) | Tm (°C) |
|-------------------------------------------|------------------|-------------------|---------|
| CLO-AKR7A3 Forward                        |CACCTGGGTGTCTCCGACC | 1052  | 60     |
| CLO-AKR7A3 Reverse                        |GGGAAATAGTGTGGAATT  |        |        |

| Primers for loss of heterozygosity (LOH) analysis | Sequence (5′-3′) | Product Size (bp) | Tm (°C) |
|--------------------------------------------------|------------------|-------------------|---------|
| rs1738025 Forward                                 |GTGAGTAAACAGATGTTACAGAGGCC | 326   | 60     |
| rs1738025 Reverse                                |ATATGGGATAAGAGATCTCCAG   |        |        |
| rs2231198 Forward                                |TTGCTCTTGAGAGGTACAGAT   |        |        |
| rs2231198 Reverse                               |GAGTGACCTCTCTACCTGCATA   |        |        |

| Primers for bisulfite genomic sequencing (BGS) and methylation-specific PCR (MSP) analysis | Sequence (5′-3′) | Product Size (bp) | Tm (°C) |
|------------------------------------------------------------------------------------------|------------------|-------------------|---------|
| BGS-AKR7A3 Forward                                                                        |TTATTTTTTGGATTTTTTTTTTTTTTTGG | 536   | 53     |
| BGS-AKR7A3 Reverse                                                                       |AAAACCACTATACCTCTCAACTC   |        |        |
| M-AKR7A3 Forward                                                                          |CGTAACGCCTGTATATTACG   |        |        |
| M-AKR7A3 Reverse                                                                          |AAAACCACTATACCTCTCAACTC | 165   | 56     |
| U-AKR7A3 Forward                                                                          |GTGTAATGGATGTGTTTATTAGTGT | 165   | 56     |
| U-AKR7A3 Reverse                                                                          |AACCACTATACCTCTCAACTC |        |        |
Supplementary Figure S1: Western blot analysis of AKR7A3 on 10 pairs of HCC patient samples. AKR7A3 protein expression dramatically decreased in HCC tissues as compared with adjacent non-tumor tissues.

Supplementary Figure S2: Endogenous AKR7A3 expression levels in immortalized liver cell lines and HCC cell lines as detected by qRT-PCR.