Supplementary Table S1 – Characteristics of the surgical cohort (N=28) of HCC patients (Bologna cohort)

Clinical Factors		**Frequency (%)**
Gender	Male/Female	22/6
Age	<65 yrs	12/28 (42.9%)
Etiology	HBV	4/28 (14.3%)
	HCV	17/28 (60.7%)
	Alcohol abuse	2/28 (7.1%)
	NASH/NAFLD	4/28 (14.3%)
	None	1/28 (3.6%)
Cirrhosis		25/28 (89.2%)
Serum AFP	> 20 ng/ml	17/28 (60.7%)
Microvascular invasion		19/28 (67.9)
Edmondson grade	I	0%
	II	5/28 (17.9%)
	III	18/28 (64.3%)
	IV	5/28 (17.9%)
Barcelona Clinic Liver Cancer stage (BCLC)	A	21/28 (75.0%)
	B	7/28 (25.0%)
	C	0%
	D	0%

Supplementary Table S2 – Primer sequences for Real Time PCR

Gene	Primer sequence
miR-22	Fw 5'-TCGAACTCGAGCCGGTGTGTGCTGGGTGC-3' Rv 5'-TCGACTCGAGCTTGCCCAAAACGTATCATCCACC-3'
ß-ACTIN	Fw 5'-ACCTTCTACAATGAGCTGCG-3' Rv 5'-CCTGGATAGCAACGTACATGG-3'
GAPDH	Fw 5'-ACATCGCTCAGACACCATG-3' Rv 5'-TGTAGTTGAGGTCAATGAAGGG-3'
HIF1A	Fw 5'-AACATAAAGTCTGCAACATGGAAG-3' Rv 5'-TTTGATGGGTGAGGAATGGG-3'
ALDOA	Fw 5'-GGTGTCATCCTCTTCCATGAG-3' Rv 5'-GTAGTCTCGCCATTTGTCCC-3'
GLUT1	Fw 5'-AAAGTGACAAGACACCCGAG-3' Rv 5'-TGTCAGGTTTGGAAGTCTCATC-3'
PFK2	Fw 5'-GGCAAGACCTACATCTCCAAG-3' Rv 5'-ATGGCTTCCTCATTGTCGG-3'
LDHA	Fw 5'-CGTCAGCAAGAGGGAGAAAG-3' Rv 5'-GCCACGTAGGTCAAGATATCC-3'
SOX2	Fw 5'-CACACTGCCCCTCTCAC-3' Rv 5'-TCCATGCTGTTTCTTACTCTCC-3'
PROM1	Fw 5'-GTGGATGCAGAACTTGACAAC-3' Rv 5'-ACCCTTTTGATACCTGCTACG-3'
SNAI1	Fw 5'-ATCCAGAGTTTACCTTCCAGCAG-3' Rv 5'-CCAGGACAGAGTCCCAGATG-3'
CASP3	Fw 5'-ACTGGACTGTGGCATTGAG-3' Rv 5'-GAGCCATCCTTTGAATTTCGC-3'
FASN	Fw 5'-CAAGCTGAAGGACCTGTCTAG-3' Rv 5'-CGGAGTGAATCTGGGTTGATG-3'
ACLY	Fw 5'-AGACTATCCTCTCCCTCATGAC-3' Rv 5'-CGTTGGTGAAGTTTGCGATG-3'
ANGPT2	Fw 5'-ATGCAGTACAGAACCAGACG-3' Rv 5'-AAGTTCAAGTCTCGTGGTCTG-3'
PKM2	Fw 5'-AAGTGTGACGAGAACATCCTG-3' Rv 5'-ACCATTTTCCACCTCCGTC-3'
PFK1	Fw 5'-TGACCAAAGATGTGACCAAGG-3' Rv 5'-GCGAACCACTCTTAGATACCG-3'

HK2	Fw 5’-GGGACAATGGATGCCTAGATG-3’ Rv 5’-GTTACGGACAATCTCACCCAG-3’
G6PD	Fw 5’-AGAACATTCACGAGTCCTGC-3’ Rv 5’-GTGGTCGATGCGGTAGATC-3’
PGD	Fw 5’-TGGCTGGACTCTCAATTATGG-3’ Rv 5’-GGGTTTCGATCAAATGCATCC-3’
CD105	Fw 5’-ATAGGACTGTCTTCATGCGC-3’ Rv 5’-GTAGATGTACCAGAGTGCAGC-3’
Rat_AFP	Fw 5’- AAAGACCAGGATCAGGAAGC-3’ Rv 5’- CCATCAAACCGAAAAGCTCAC-3’
Rat_GLUT1	Fw 5’- TGATTGGTTCCTTCTCTGTGG-3’ Rv 5’- CCCAGGATCAGCATCTCAAAG-3’
Rat_CASP3	Fw 5’- ATCAAAGCTTAGTGTCCTGAGG-3’ Rv 5’- TCCATCGACTTGCTTCCATG-3’
Rat_PUMA	Fw 5’- AGAAATGGAGCCCAACTAGTG-3’ Rv 5’- GGCAGTCCAGTATGCTACATG-3’
Rat_BMF	Fw 5’- GAGGTACAGATCGCCAGAAAG-3’ Rv 5’- TCCCTGTTTTCTCGTCTGTTC-3’
Rat_ß-ACTIN	Fw 5’-CACTTTCTACAATGAGCTGCG-3’ Rv 5’-CTGGATGGCTACGTACATGG-3’
HIF1A.13.3 DsiRNA C	Fw 5’-CGGUUGAAUCUUCAGAUAUGAAAAT-3’ Rv 5’-AUUUUCAUAUCUGAAGAUUAACCGGU-3’
GLUT1_MUT	Fw 5’- CAGGAGCACAaagtGCTGGATGAGAC-3’ Rv 5’-AGAGATCCTTAGGGC-3’
GLUT1_seq	Fw 5’-GATTCCCAAGTGTGAGTCGC-3’ Rv 5’-GACATCATTGCTGGCTGGAG-3’

Supplementary Table S3 - Antibodies for WB analysis

Antibody	Catalogue number	Company
Cleaved caspase-3 (Asp175)	#9661	Cell Signaling Technologies
BAX	#2772	Cell Signaling Technologies
GAPDH	#2118	Cell Signaling Technologies
HIF-1	#E-AB-31662	ElabScience
Lamin B	#sc-6216	Santa Cruz Biotechnology
SNAIL	#3879	Cell Signaling Technologies
GLUT1	#73015	Cell Signaling Technologies
phospo-AKT (Ser473) (D9E) XP	#4060	Cell Signaling Technologies
CD133 (D4W4N)	#86781	Cell Signaling Technologies
SOX2 (D9B8N)	#23064	Cell Signaling Technologies