

Table S1. List of the NGS-based pre-S genotyping result in 75 HBV-related HCC patients

Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
1	1. pre-S1 del (92.118)^b 2. wild-type (7.278) 3. pre-S2 del (0.372) 4. pre-S1+pre-S2 del (0.231)	1. pre-S1 del (nt 2855-2872) (90.102) 2. wild-type (7.278) 3. pre-S2 del (nt 1-28) (0.180) 4. pre-S1+pre-S2 del (nt 2855-2872, 1-111) (0.027)	absence
2	1. pre-S1 del (75.241) 2. wild-type (22.338) 3. pre-S2 del (1.891) 4. pre-S1+pre-S2 del (0.530)	1. pre-S1 del (nt 2910-3089) (48.977) 2. wild-type (22.338) 3. pre-S2 del (nt 1-54) (1.579) 4. pre-S1+pre-S2 del (nt 2910-3089, 1-57) (0.277)	absence
3	1. pre-S1 del (76.228) 2. wild-type (12.583) 3. pre-S2 del (10.622) 4. pre-S1+pre-S2 del (0.567)	1. pre-S1 del (nt 3110-3127) (24.869) 2. wild-type (12.583) 3. pre-S2 del (nt 1-57) (10.000) 4. pre-S1+pre-S2 del (nt 2855-2872, 1-57) (0.490)	presence
4	1. wild-type (71.590) 2. pre-S1 del (28.270) 3. pre-S2 del (0.129) 4. pre-S1+pre-S2 del (0.011)	1. wild-type (71.590) 2. pre-S1 del (nt 2854-3147) (23.961) 3. pre-S2 del (nt 3211-3216) (0.048) 4. pre-S1+pre-S2 del (nt 2954-3097, 1-54) (0.002)	absence
5	1. wild-type (58.461) 2. pre-S2 del (37.194) 3. pre-S1 del (2.939) 4. pre-S1+pre-S2 del (1.407)	1. wild-type (58.461) 2. pre-S2 del (nt 24-50) (33.801) 3. pre-S1 del (nt 2880-3146) (0.646) 4. pre-S1+pre-S2 del (nt 2880-3146, 24-50) (0.355)	presence
6	1. wild-type (96.592) 2. pre-S1 del (2.906) 3. pre-S2 del (0.469) 4. pre-S1+pre-S2 del (0.033)	1. wild-type (96.592) 2. pre-S1 del (nt 3026-3205) (0.604) 3. pre-S2 del (nt 1-12) (0.233) 4. pre-S1+pre-S2 del (nt 2854-2979, 6-134) (0.008)	absence

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Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
7	1. wild-type (99.000)	1. wild-type (99.000)	absence
	2. pre-S1 del (0.927)	2. pre-S1 del (nt 3106-3129) (0.294)	
	3. pre-S2 del (0.062)	3. pre-S2 del (nt 1-54) (0.031)	
	4. pre-S1+pre-S2 del (0.012)	4. pre-S1+pre-S2 del (nt 2855-2972, 1-54) (0.008)	
8	1. wild-type (93.746)	1. wild-type (93.746)	absence
	2. pre-S1 del (5.846)	2. pre-S1 del (nt 3026-3205) (2.417)	
	3. pre-S2 del (0.389)	3. pre-S2 del (nt 3211-3213) (0.135)	
	4. pre-S1+pre-S2 del (0.018)	4. pre-S1+pre-S2 del (nt 2856-2873, 1-21) (0.004)	
9	1. pre-S1+pre-S2 del (46.237)	1. pre-S1+pre-S2 del (nt 2956-3126, 1-9) (24.002)	presence
	2. pre-S2 del (26.927)	2. pre-S2 del (nt 1-54) (23.226)	
	3. pre-S1 del (14.368)	3. pre-S1 del (nt 2944-3075) (5.140)	
	4. wild-type (12.467)	4. wild-type (12.467)	
10	1. wild-type (97.851)	1. wild-type (97.851)	absence
	2. pre-S1 del (2.037)	2. pre-S1 del (nt 3026-3205) (1.109)	
	3. pre-S2 del (0.108)	3. pre-S2 del (nt 3211-3213) (0.049)	
	4. pre-S1+pre-S2 del (0.005)	4. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (0.003)	
11	1. wild-type (98.964)	1. wild-type (98.964)	absence
	2. pre-S1 del (0.943)	2. pre-S1 del (nt 2854-2970) (0.125)	
	3. pre-S2 del (0.084)	3. pre-S2 del (nt 1-9) (0.028)	
	4. pre-S1+pre-S2 del (0.009)	4. pre-S1+pre-S2 del (nt 2954-3097, 1-13) (0.009)	
12	1. wild-type (97.781)	1. wild-type (97.781)	absence
	2. pre-S1 del (2.099)	2. pre-S1 del (nt 3026-3205) (1.099)	
	3. pre-S2 del (0.112)	3. pre-S2 del (nt 3211-3216) (0.055)	
	4. pre-S1+pre-S2 del (0.008)	4. pre-S1+pre-S2 del (nt 3026-3205, 43-138) (0.002)	

Table S1. List of the NGS-based pre-S genotyping result in 75 HBV-related HCC patients (continued)

Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
13	1. wild-type (92.291) 2. pre-S1 del (4.092) 3. pre-S2 del (3.038) 4. pre-S1+pre-S2 del (0.578)	1. wild-type (92.291) 2. pre-S1 del (nt 2854-2970) (0.650) 3. pre-S2 del (nt 1-54) (2.641) 4. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (0.435)	absence
14	1. wild-type (69.001) 2. pre-S1 del (20.530) 3. pre-S2 del (9.463) 4. pre-S1+pre-S2 del (1.006)	1. wild-type (69.001) 2. pre-S1 del (nt 3110-3127) (4.779) 3. pre-S2 del (nt 1-54) (8.226) 4. pre-S1+pre-S2 del (nt 2855-2872, 1-18, 26-59) (0.259)	presence
15	1. wild-type (50.938) 2. pre-S1 del (19.760) 3. pre-S1+pre-S2 del (15.021) 4. pre-S2 del (14.280)	1. wild-type (50.938) 2. pre-S1 del (nt 2854-2970) (5.470) 3. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (12.421) 4. pre-S2 del (nt 1-54) (13.606)	presence
16	1. wild-type (75.230) 2. pre-S1+pre-S2 del (13.878) 3. pre-S1 del (10.730) 4. pre-S2 del (0.162)	1. wild-type (75.230) 2. pre-S1+pre-S2 del (nt 2860-2880, 2954-3097, 1-15) (11.572) 3. pre-S1 del (nt 2860-2880, 2954-3097) (9.550) 4. pre-S2 del (nt 1-15) (0.138)	presence
17	1. wild-type (98.571) 2. pre-S1 del (1.173) 3. pre-S2 del (0.178) 4. pre-S1+pre-S2 del (0.078)	1. wild-type (98.571) 2. pre-S1 del (nt 3106-3129) (0.242) 3. pre-S2 del (nt 2-149) (0.043) 4. pre-S1+pre-S2 del (nt 2854-2985, 27-149) (0.014)	absence
18	1. wild-type (96.915) 2. pre-S1 del (2.701) 3. pre-S2 del (0.364) 4. pre-S1+pre-S2 del (0.020)	1. wild-type (96.915) 2. pre-S1 del (nt 3026-3205) (1.755) 3. pre-S2 del (nt 25-54) (0.148) 4. pre-S1+pre-S2 del (nt 2854-2988, 45-149) (0.004)	absence

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Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
19	1. wild-type (98.069) 2. pre-S1 del (1.263) 3. pre-S2 del (0.609) 4. pre-S1+pre-S2 del (0.059)	1. wild-type (98.069) 2. pre-S1 del (nt 3103-3126) (0.253) 3. pre-S2 del (nt 1-15) (0.535) 4. pre-S1+pre-S2 del (nt 2854-2996, 44-144) (0.015)	absence
20	1. wild-type (69.571) 2. pre-S2 del (18.590) 3. pre-S1+pre-S2 del (8.224) 4. pre-S1 del (3.615)	1. wild-type (69.571) 2. pre-S2 del (nt 1-54) (18.482) 3. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (7.712) 4. pre-S1 del (nt 2855-2872) (2.674)	presence
21	1. pre-S2 del (41.477) 2. pre-S1+pre-S2 del (39.126) 3. wild-type (12.348) 4. pre-S1 del (7.048)	1. pre-S2 del (nt 1-54) (24.620) 2. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (26.451) 3. wild-type (12.348) 4. pre-S1 del (nt 2855-2872) (4.978)	presence
22	1. pre-S2 del (42.909) 2. pre-S1+pre-S2 del (27.915) 3. wild-type (17.564) 4. pre-S1 del (11.612)	1. pre-S2 del (nt 1-54) (38.091) 2. pre-S1+pre-S2 del (2855-2872, 1-54) (25.090) 3. wild-type (17.564) 4. pre-S1 del (nt 2855-2872) (8.072)	presence
23	1. wild-type (52.661) 2. pre-S2 del (25.093) 3. pre-S1+pre-S2 del (11.424) 4. pre-S1 del (10.821)	1. wild-type (52.661) 2. pre-S2 del (nt 1-54) (18.682) 3. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (8.344) 4. pre-S1 del (nt 2855-2872) (2.817)	presence
24	1. wild-type (96.073) 2. pre-S1 del (1.895) 3. pre-S1+pre-S2 del (1.202) 4. pre-S2 del (0.830)	1. wild-type (96.073) 2. pre-S1 del (nt 2954-3097) (0.632) 3. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (0.452) 4. pre-S2 del (nt 1-54) (0.382)	absence

Table S1. List of the NGS-based pre-S genotyping result in 75 HBV-related HCC patients (continued)

Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
25	1. wild-type (93.547)	1. wild-type (93.547)	absence
	2. pre-S1 del (4.345)	2. pre-S1 del (nt 3026-3205) (0.869)	
	3. pre-S2 del (1.844)	3. pre-S2 del (nt 1-54) (1.107)	
	4. pre-S1+pre-S2 del (0.265)	4. pre-S1+pre-S2 del (nt 2855-2872, 2897-2923, 1-54) (0.180)	
26	1. wild-type (97.921)	1. wild-type (97.921)	absence
	2. pre-S1 del (1.388)	2. pre-S1 del (nt 3067-3162) (0.040)	
	3. pre-S2 del (0.691)	3. pre-S2 del (nt 3211-3216) (0.046)	
	4. pre-S1+pre-S2 del (0.000)	4. pre-S1+pre-S2 del (0.000)	
27	1. wild-type (60.195)	1. wild-type (60.195)	presence
	2. pre-S2 del (22.882)	2. pre-S2 del (nt 1-57) (22.473)	
	3. pre-S1+pre-S2 del (9.280)	3. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (4.815)	
	4. pre-S1 del (7.643)	4. pre-S1 del (nt 3025-3126) (4.396)	
28	1. pre-S1 del (75.113)	1. pre-S1 del (nt 2855-2872) (5.979)	presence
	2. wild-type (11.506)	2. wild-type (11.506)	
	3. pre-S1+pre-S2 del (10.472)	3. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (8.016)	
	4. pre-S2 del (2.909)	4. pre-S2 del (nt 1-54) (2.747)	
29	1. wild-type (97.730)	1. wild-type (97.730)	absence
	2. pre-S1 del (1.691)	2. pre-S1 del (nt 2855-2970) (0.217)	
	3. pre-S2 del (0.575)	3. pre-S2 del (nt 1-12) (0.323)	
	4. pre-S1+pre-S2 del (0.004)	4. pre-S1+pre-S2 del (nt 2855-2970, 1-54) (0.004)	
30	1. wild-type (87.018)	1. wild-type (87.018)	absence
	2. pre-S1 del (11.703)	2. pre-S1 del (nt 3010-3075) (5.189)	
	3. pre-S2 del (1.113)	3. pre-S2 del (nt 1-9) (0.392)	
	4. pre-S1+pre-S2 del (0.166)	4. pre-S1+pre-S2 del (nt 3010-3075, 1-9) (0.046)	

Table S1. List of the NGS-based pre-S genotyping result in 75 HBV-related HCC patients (continued)

Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
31	1. wild-type (78.709)	1. wild-type (78.709)	absence
	2. pre-S1 deletion (20.616)	2. pre-S1 del (nt 2910-3089) (9.181)	
	3. pre-S2 del (0.646)	3. pre-S2 del (nt 1-15) (0.345)	
	4. pre-S1+pre-S2 del (0.029)	4. pre-S1+pre-S2 del (nt 2910-3055, 3067-3089, 4-12) (0.007)	
32	1. wild-type (98.105)	1. wild-type (98.105)	absence
	2. pre-S1 del (1.152)	2. pre-S1 del (nt 2855-2970) (0.060)	
	3. pre-S2 del (0.733)	3. pre-S2 del (nt 1-9) (0.408)	
	4. pre-S1+pre-S2 del (0.010)	4. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (0.003)	
33	1. wild-type (80.067)	1. wild-type (80.067)	presence
	2. pre-S2 del (9.477)	2. pre-S2 del (nt 1-12) (8.957)	
	3. pre-S1 del (8.993)	3. pre-S1 del (nt 2866-3075) (7.322)	
	4. pre-S1+pre-S2 del (1.463)	4. pre-S1+pre-S2 del (nt 2866-3075, 1-9) (0.871)	
34	1. wild-type (80.175)	1. wild-type (80.175)	presence
	2. pre-S2 del (13.639)	2. pre-S2 del (nt 1-30) (4.394)	
	3. pre-S1 del (5.169)	3. pre-S1 del (nt 2865-2975) (2.356)	
	4. pre-S1+pre-S2 del (1.017)	4. pre-S1+pre-S2 del (nt 2866-2975, 1-29) (0.212)	
35	1. wild-type (92.156)	1. wild-type (92.156)	absence
	2. pre-S1 del (7.022)	2. pre-S1 del (nt 2854-3018) (1.346)	
	3. pre-S2 del (0.793)	3. pre-S2 del (nt 1-9) (0.323)	
	4. pre-S1+pre-S2 del (0.029)	4. pre-S1+pre-S2 del (nt 2855-2872, 1-9) (0.004)	
36	1. pre-S1+pre-S2 del (40.433)	1. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (22.713)	presence
	2. pre-S1 del (34.174)	2. pre-S1 del (nt 2854-2970) (22.956)	
	3. wild-type (20.822)	3. wild-type (20.822)	
	4. pre-S2 del (4.571)	4. pre-S2 del (nt 1-54) (4.380)	

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Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
37	1. wild-type (80.758) 2. pre-S2 del (12.910) 3. pre-S1 del (5.629) 4. pre-S1+pre-S2 del (0.704)	1. wild-type (80.758) 2. pre-S2 del (nt 1-54) (6.944) 3. pre-S1 del (nt 2855-2875) (4.209) 4. pre-S1+pre-S2 del (nt 2855-2875, 1-54) (0.253)	presence
38	1. wild-type (61.320) 2. pre-S1 del (34.045) 3. pre-S2 del (3.491) 4. pre-S1+pre-S2 del (1.144)	1. wild-type (61.320) 2. pre-S1 del (nt 3021-3203) (23.818) 3. pre-S2 del (nt 6-41) (1.385) 4. pre-S1+pre-S2 del (nt 2855-2872, 2919-3126, 6-41) (0.163)	absence
39	1. wild-type (97.172) 2. pre-S1 del (1.957) 3. pre-S2 del (0.850) 4. pre-S1+pre-S2 del (0.021)	1. wild-type (97.172) 2. pre-S1 del (nt 3021-3203) (0.353) 3. pre-S2 del (nt 1-12) (0.488) 4. pre-S1+pre-S2 del (nt 3078-3094, 6-41) (0.003)	absence
40	1. wild-type (97.501) 2. pre-S1 del (1.586) 3. pre-S2 del (0.908) 4. pre-S1+pre-S2 del (0.005)	1. wild-type (97.501) 2. pre-S1 del (nt 3107-3202) (0.081) 3. pre-S2 del (nt 1-12) (0.529) 4. pre-S1+pre-S2 del (nt 3133-3136, 1-10) (0.005)	absence
41	1. pre-S1 del (84.262) 2. wild-type (14.798) 3. pre-S1+pre-S2 del (0.779) 4. pre-S2 del (0.161)	1. pre-S1 del (nt 2858-2986) (82.700) 2. wild-type (14.798) 3. pre-S1+pre-S2 del (nt 2858-2981, 1-10) (0.268) 4. pre-S2 del (nt 1-33) (0.053)	absence
42	1. wild-type (97.757) 2. pre-S1 del (1.305) 3. pre-S2 del (0.923) 4. pre-S1+pre-S2 del (0.015)	1. wild-type (97.757) 2. pre-S1 del (nt 3106-3207) (0.060) 3. pre-S2 del (nt 3211-3213) (0.124) 4. pre-S1+pre-S2 del (nt 3069-3118, 3211-3212) (0.004)	absence

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Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
43	1. pre-S2 del (49.695) 2. wild-type (49.248) 3. pre-S1+pre-S2 del (0.814) 4. pre-S1 del (0.242)	1. pre-S2 del (nt 37-54) (43.929) 2. wild-type (49.248) 3. pre-S1+pre-S2 del (nt 3139-3142, 37-54) (0.049) 4. pre-S1 del (nt 3103-3200) (0.019)	presence
44	1. wild-type (98.244) 2. pre-S1 del (1.113) 3. pre-S2 del (0.643) 4. pre-S1+pre-S2 del (0.000)	1. wild-type (98.244) 2. pre-S1 del (nt 3089-3202) (0.049) 3. pre-S2 del (nt 1-15) (0.319) 4. pre-S1+pre-S2 del (0.000)	absence
45	1. wild-type (97.534) 2. pre-S1 del (1.376) 3. pre-S2 del (1.076) 4. pre-S1+pre-S2 del (0.014)	1. wild-type (97.534) 2. pre-S1 del (nt 3106-3207) (0.063) 3. pre-S2 del (nt 1-9) (0.769) 4. pre-S1+pre-S2 del (nt 3095-3150, 1-12) (0.007)	absence
46	1. wild-type (97.735) 2. pre-S1 del (1.534) 3. pre-S2 del (0.731) 4. pre-S1+pre-S2 del (0.000)	1. wild-type (97.735) 2. pre-S1 del (nt 3138-3197) (0.111) 3. pre-S2 del (nt 1-9) (0.371) 4. pre-S1+pre-S2 del (0.000)	absence
47	1. wild-type (78.334) 2. pre-S1 del (20.695) 3. pre-S2 del (0.866) 4. pre-S1+pre-S2 del (0.105)	1. wild-type (78.334) 2. pre-S1 del (nt 2895-3140) (15.887) 3. pre-S2 del (nt 1-9) (0.279) 4. pre-S1+pre-S2 del (nt 2895-3141, 1-19, 23-27) (0.023)	absence
48	1. pre-S1 del (57.159) 2. wild-type (20.456) 3. pre-S2 del (13.666) 4. pre-S1+pre-S2 del (8.719)	1. pre-S1 del (nt 2968-3093) (47.067) 2. wild-type (20.456) 3. pre-S2 del (nt 1-54) (8.120) 4. pre-S1+pre-S2 del (nt 2968-3093, 1-54) (3.469)	presence

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Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
49	1. wild-type (75.021) 2. pre-S2 del (21.983) 3. pre-S1 del (2.327) 4. pre-S1+pre-S2 del (0.669)	1. wild-type (75.021) 2. pre-S2 del (nt 1-1) (19.454) 3. pre-S1 del (nt 2855-2872) (0.704) 4. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (0.606)	presence
50	1. wild-type (98.169) 2. pre-S1 del (1.138) 3. pre-S2 del (0.693) 4. pre-S1+pre-S2 del (0.000)	1. wild-type (98.169) 2. pre-S1 del (nt 3138-3197) (0.067) 3. pre-S2 del (nt 1-9) (0.377) 4. pre-S1+pre-S2 del (0.000)	absence
51	1. wild-type (97.734) 2. pre-S1 del (1.546) 3. pre-S2 del (0.719) 4. pre-S1+pre-S2 del (0.000)	1. wild-type (97.734) 2. pre-S1 del (nt 3104-3202) (0.165) 3. pre-S2 del (nt 1-9) (0.377) 4. pre-S1+pre-S2 del (0.000)	absence
52	1. wild-type (98.167) 2. pre-S1 del (1.192) 3. pre-S2 del (0.617) 4. pre-S1+pre-S2 del (0.024)	1. wild-type (98.167) 2. pre-S1 del (nt 2854-3128) (0.132) 3. pre-S2 del (nt 1-9) (0.246) 4. pre-S1+pre-S2 del (nt 3022-3125, 1-55) (0.018)	absence
53	1. wild-type (97.002) 2. pre-S1 del (2.144) 3. pre-S2 del (0.849) 4. pre-S1+pre-S2 del (0.005)	1. wild-type (97.002) 2. pre-S1 del (nt 3026-3205) (0.927) 3. pre-S2 del (nt 1-9) (0.528) 4. pre-S1+pre-S2 del (nt 3020-3119, 1-55) (0.005)	absence
54	1. wild-type (96.687) 2. pre-S1 del (2.625) 3. pre-S2 del (0.676) 4. pre-S1+pre-S2 del (0.013)	1. wild-type (96.687) 2. pre-S1 del (nt 2855-2872) (1.117) 3. pre-S2 del (nt 1-12) (0.411) 4. pre-S1+pre-S2 del (nt 2855-2872, 1-17) (0.004)	absence

Table S1. List of the NGS-based pre-S genotyping result in 75 HBV-related HCC patients (continued)

Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
55	1. wild-type (64.666) 2. pre-S1 del (34.582) 3. pre-S2 del (0.493) 4. pre-S1+pre-S2 del (0.259)	1. wild-type (64.666) 2. pre-S1 del (nt 2858-2986) (33.466) 3. pre-S2 del (nt 1-9) (0.303) 4. pre-S1+pre-S2 del (nt 2858-2981, 1-10) (0.069)	absence
56	1. pre-S1 del (69.372) 2. wild-type (30.404) 3. pre-S2 del (0.218) 4. pre-S1+pre-S2 del (0.005)	1. pre-S1 del (nt 2856-3101) (66.854) 2. wild-type (30.404) 3. pre-S2 del (nt 1-12) (0.130) 4. pre-S1+pre-S2 del (nt 2984-3098, 1-10) (0.002)	absence
57	1. wild-type (94.005) 2. pre-S1 del (3.729) 3. pre-S2 del (1.824) 4. pre-S1+pre-S2 del (0.442)	1. wild-type (94.005) 2. pre-S1 del (nt 2895-3188) (0.677) 3. pre-S2 del (nt 1-54) (1.029) 4. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (0.253)	absence
58	1. wild-type (95.575) 2. pre-S1 del (2.481) 3. pre-S2 del (1.931) 4. pre-S1+pre-S2 del (0.013)	1. wild-type (95.575) 2. pre-S1 del (nt 3039-3092) (0.590) 3. pre-S2 del (nt 1-12) (0.510) 4. pre-S1+pre-S2 del (nt 2854-2940, 1-144) (0.007)	absence
59	1. pre-S2 del (64.182) 2. wild-type (32.367) 3. pre-S1+pre-S2 del (2.975) 4. pre-S1 del (0.476)	1. pre-S2 del (nt 15-56) (33.613) 2. wild-type (32.367) 3. pre-S1+pre-S2 del (nt 3088-3126, 15-56) (0.176) 4. pre-S1 del (nt 2923-3090) (0.073)	presence
60	1. pre-S1 del (38.192) 2. wild-type (34.644) 3. pre-S2 del (19.195) 4. pre-S1+pre-S2 del (7.968)	1. pre-S1 del (nt 2854-2970) (27.998) 2. wild-type (30.404) 3. pre-S2 del (nt 1-54) (18.373) 4. pre-S1+pre-S2 del (nt 3025-3126, 1-57) (2.383)	presence

Table S1. List of the NGS-based pre-S genotyping result in 75 HBV-related HCC patients (continued)

Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
61	1. pre-S1 del (40.086) 2. wild-type (34.919) 3. pre-S2 del (16.065) 4. pre-S1+pre-S2 del (8.930)	1. pre-S1 del (nt 2855-2965) (24.125) 2. wild-type (34.919) 3. pre-S2 del (nt 1-54) (15.565) 4. pre-S1+pre-S2 del (nt 3022-3126, 1-60) (2.911)	presence
62	1. pre-S1 del (29.181) 2. wild-type (23.836) 3. pre-S2 del (23.645) 4. pre-S1+pre-S2 del (23.338)	1. pre-S1 del (nt 2856-2969) (17.015) 2. wild-type (23.836) 3. pre-S2 del (nt 1-54) (23.402) 4. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (15.956)	presence
63	1. pre-S1 del (52.401) 2. wild-type (42.979) 3. pre-S2 del (2.312) 4. pre-S1+pre-S2 del (2.308)	1. pre-S1 del (nt 2854-2970) (43.037) 2. wild-type (42.979) 3. pre-S2 del (nt 1-54) (1.977) 4. pre-S1+pre-S2 del (nt 2860-2880, 2954-3097, 1-15) (1.445)	absence
64	1. pre-S1 del (41.155) 2. wild-type (37.573) 3. pre-S2 del (18.905) 4. pre-S1+pre-S2 del (2.367)	1. pre-S1 del (nt 2854-2970) (35.773) 2. wild-type (37.573) 3. pre-S2 del (nt 1-54) (18.494) 4. pre-S1+pre-S2 del (nt 2855-2970, 1-54) (1.676)	presence
65	1. pre-S1 del (63.334) 2. wild-type (32.806) 3. pre-S2 del (1.965) 4. pre-S1+pre-S2 del (1.895)	1. pre-S1 del (nt 2854-2970) (33.450) 2. wild-type (32.806) 3. pre-S2 del (nt 1-54) (1.708) 4. pre-S1+pre-S2 del (nt 2855-2970, 1-54) (0.994)	absence
66	1. wild-type (30.973) 2. pre-S1+pre-S2 del (27.774) 3. pre-S1 del (27.161) 4. pre-S2 del (14.091)	1. wild-type (30.973) 2. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (24.398) 3. pre-S1 del (nt 2854-2970) (14.813) 4. pre-S2 del (nt 1-54) (13.846)	presence

Table S1. List of the NGS-based pre-S genotyping result in 75 HBV-related HCC patients (continued)

Patient No.	Pre-S Del Type (%)^a	Pre-S Del Region (%)^c	Del Spanning Pre-S2 Gene Segment^d
67	1. wild-type (46.914)	1. wild-type (46.914)	presence
	2. pre-S1 del (45.517)	2. pre-S1 del (nt 2854-2970) (37.666)	
	3. pre-S2 del (6.834)	3. pre-S2 del (nt 1-54) (5.216)	
	4. pre-S1+pre-S2 del (0.735)	4. pre-S1+pre-S2 del (nt 2854-2970, 1-54) (0.307)	
68	1. pre-S1 del (43.130)	1. pre-S1 del (nt 2854-2970) (35.888)	presence
	2. wild-type (41.965)	2. wild-type (41.965)	
	3. pre-S2 del (9.508)	3. pre-S2 del (nt 1-54) (9.239)	
	4. pre-S1+pre-S2 del (5.397)	4. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (4.160)	
69	1. wild-type (36.868)	1. wild-type (36.868)	presence
	2. pre-S1 del (35.238)	2. pre-S1 del (nt 2854-2970) (29.499)	
	3. pre-S2 del (21.130)	3. pre-S2 del (nt 1-54) (20.218)	
	4. pre-S1+pre-S2 del (6.763)	4. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (3.332)	
70	1. wild-type (94.788)	1. wild-type (94.788)	absence
	2. pre-S1 del (4.643)	2. pre-S1 del (nt 2854-3021) (3.404)	
	3. pre-S2 del (0.455)	3. pre-S2 del (nt 1-15) (0.192)	
	4. pre-S1+pre-S2 del (0.114)	4. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (0.086)	
71	1. pre-S2 del (54.981)	1. pre-S2 del (nt 48-56) (52.982)	presence
	2. wild-type (42.238)	2. wild-type (42.238)	
	3. pre-S1+pre-S2 del (2.274)	3. pre-S1+pre-S2 del (nt 3026-3205, 48-56) (0.916)	
	4. pre-S1 del (0.507)	4. pre-S1 del (nt 2854-3021) (0.334)	
72	1. wild-type (91.511)	1. wild-type (91.511)	absence
	2. pre-S1 del (7.310)	2. pre-S1 del (nt 2854-3021) (5.744)	
	3. pre-S2 del (0.807)	3. pre-S2 del (nt 48-56) (0.294)	
	4. pre-S1+pre-S2 del (0.373)	4. pre-S1+pre-S2 del (nt 2855-2872, 1-54) (0.322)	

Table S1. List of the NGS-based pre-S genotyping result in 75 HBV-related HCC patients (continued)

Patient No.	Pre-S Del Type (%) ^a	Pre-S Del Region (%) ^c	Del Spanning Pre-S2 Gene Segment ^d
73	1. wild-type (52.297)	1. wild-type (52.297)	presence
	2. pre-S1+pre-S2 del (31.339)	2. pre-S1+pre-S2 del (nt 2855-2872, 3012-3086, 1-51) (8.935)	
	3. pre-S1 del (12.863)	3. pre-S1 del (nt 2855-2872, 3012-3092) (6.480)	
	4. pre-S2 del (3.502)	4. pre-S2 del (nt 1-51) (2.094)	
74	1. wild-type (58.984)	1. wild-type (58.984)	presence
	2. pre-S2 del (34.533)	2. pre-S2 del (nt 1-57) (20.926)	
	3. pre-S1+pre-S2 del (4.497)	3. pre-S1+pre-S2 del (nt 3026-3205, 2-55) (0.590)	
	4. pre-S1 del (1.986)	4. pre-S1 del (nt 2944-3120) (1.128)	
75	1. wild-type (97.112)	1. wild-type (97.112)	absence
	2. pre-S1 del (2.178)	2. pre-S1 del (nt 2854-3021) (0.641)	
	3. pre-S2 del (0.679)	3. pre-S2 del (nt 25-54) (0.355)	
	4. pre-S1+pre-S2 del (0.031)	4. pre-S1+pre-S2 del (nt 2855-2970, 25-54) (0.007)	

^aThe total percentage of pre-S gene DNA in each type of pre-S deletion was shown in descending order.

^bThe pre-S deletion type whose percentage was above the cut-off percentage (4.643) was shown in bold.

^cThe pre-S gene DNA with the highest frequency in each type of pre-S deletion was shown.

^dThe presence of deletion spanning pre-S2 gene segment was defined as the percentage of either pre-S2 or pre-S1+pre-S2 deletion above the cut-off percentage (4.643).

Abbreviations: NGS, next-generation sequencing; HBV, hepatitis B virus; HCC, hepatocellular carcinoma; del, deletion; nt, nucleotide.