**Supplemental Table S5. OS and PFS per AFP cutoffs by baseline characteristics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | OS  HR (95% CI); *p*a  n=141b | | PFS per IRF-assessed RECIST 1.1  HR (95% CI); *p*a  n=115b | |
| ≥75% AFP decrease | ≤10% AFP increase | ≥75% AFP decrease | ≤10% AFP increase |
| AFP |  |  |  |  |
| Non-responder | Ref |  |  |  |
| Responder | 0.35  (0.18–0.66)  *p* = 0.001 | 0.33  (0.20–0.54)  *p* < 0.001 | 0.43  (0.25–0.74)  *p* = 0.003 | 0.33  (0.18–0.60)  *p* < 0.001 |
| Baseline AFP | 1.00  (0.99-1.00)  *p* = 0.467 | 1.00  (0.99-1.00)  *p* = 0.884 | 1.00  (0.99-1.00)  *p* = 0.279 | 1.00  (0.99-1.00)  *p* = 0.074 |
| Sex |  |  |  |  |
| Female | Ref |  |  |  |
| Male | 1.52  (0.82–2.79)  *p* = 0.181 | 1.72  (0.93–3.17)  *p* = 0.084 | 1.16  (0.64–2.09)  *p* = 0.625 | 1.24  (0.69–2.24)  *p* = 0.471 |
| Race |  |  |  |  |
| Asian | Ref |  |  |  |
| White | 0.97  (0.52–1.80)  *p* = 0.913 | 1.25  (0.67–2.32)  *p* = 0.478 | 0.89  (0.50–1.59)  *p* = 0.697 | 1.01  (0.57–1.80)  *p* = 0.970 |
| Other | 0.82  (0.10–6.67)  *p* = 0.855 | 1.92  (0.24–15.49)  *p* = 0.542 | 1.78  (0.17–18.57)  *p* = 0.628 | 4.87  (0.46–51.31)  *p* = 0.187 |
| Unknown | 0.91  (0.32–2.54)  *p* = 0.854 | 1.10  (0.38–3.15)  *p* = 0.866 | 2.10  (0.74–5.92)  *p* = 0.162 | 1.72  (0.58–5.07)  *p* = 0.326 |
| ECOG PS |  |  |  |  |
| 0 | Ref |  |  |  |
| 1 | 1.0  (0.60–1.67)  *p* = 0.995 | 0.85  (0.51–1.44)  *p* = 0.55 | 1.51  (0.86–2.65)  *p* = 0.149 | 1.28  (0.74–2.22)  *p* = 0.377 |
| Child-Pugh class |  |  |  |  |
| A5 | Ref |  |  |  |
| A6 | 2.45  (1.51–3.97)  *p* < 0.001 | 2.68  (1.62–4.43)  *p* < 0.001 | 1.60  (0.92–2.78)  *p* = 0.093 | 1.60  (0.91–2.80)  *p* =0.101 |
| Etiology |  |  |  |  |
| HBV | Ref |  |  |  |
| HCV | 0.71  (0.35–1.45)  *p* = 0.349 | 0.64  (0.31–1.31)  *p* = 0.220 | 0.68  (0.35–1.34)  *p* = 0.268 | 0.64  (0.32–1.26)  *p* = 0.197 |
| Non-viral | 1.82  (0.93–3.57)  *p* = 0.082 | 1.46  (0.74–2.87)  *p* = 0.271 | 1.91  (0.98–3.74)  *p* = 0.058 | 1.50  (0.76–2.96)  *p* = 0.238 |
| BCLC stage |  |  |  |  |
| A1/A4 | Ref |  |  |  |
| B | 1.54  (0.39–6.11)  *p* = 0.541 | 0.86  (0.21–3.52)  *p* = 0.833 | 2.49  (0.66–9.41)  *p* = 0.179 | 1.63  (0.43–6.12)  *p* = 0.472 |
| C | 4.27  (1.09–16.76)  *p* = 0.038 | 3.28  (0.83–12.92)  *p* = 0.090 | 2.69  (0.69–10.52)  *p* = 0.155 | 2.21  (0.57–8.60)  *p* = 0.253 |
| Extrahepatic spread (Yes) | 0.49  (0.23–1.06)  *p* = 0.070 | 0.47  (0.22–1.01)  *p* = 0.054 | 0.70  (0.32–1.41)  *p* = 0.290 | 0.54  (0.26–1.13)  *p* = 0.102 |
| Time from initial diagnosis | 1.00  (0.99–1.01)  *p* = 0.500 | 1.00  (0.99–1.01)  *p* = 0.588 | 1.00  (0.99–1.01)  *p* = 0.923 | 1.00  (0.99–1.01)  *p* = 0.790 |
| Prior locoregional therapy (Yes) | 0.96  (0.55–1.68)  *p* = 0.890 | 0.81  (0.46–1.43)  *p* = 0.472 | 0.95  (0.55–1.67)  *p* = 0.868 | 0.71  (0.40–1.28)  *p* = 0.257 |
| Number of metastatic sites | 1.07  (0.65–1.77)  *p* = 0.780 | 1.17  (0.72–1.92)  *p* = 0.522 | 1.17  (0.70–1.95)  *p* = 0.553 | 1.21  (0.73–2.00)  *p* = 0.470 |

AFP–alpha-fetoprotein; IRF–independent review facility; OS–overall survival; PFS–progression-free survival; RECIST 1.1–Response Evaluation Criteria in Solid Tumors version 1.1.

a Estimated using a Cox proportional hazards model

b N is lower than primary analysis due to missing data across confounder variables