

Supplementary Table 1. Baseline characteristics of included trial.

Study Name	Arm	Pts	Age	Male %	Race/Region %	ECOG PS (0,1)%	Child-Pugh (A) %	MVI or EHS (MVI, EHS) %	BCLC (B,C) %	HBV/HCV %
<b>Finn 2022 (LEAP-002)</b>	Pembrolizumab plus lenvatinib	395	66(19-88)	80.3	Asia without Japan (30.6), Western regions and Japan (69.4)	NA, 32.2	99.5	67.8 (18.0, 63.0)	21.5, 78.5	48.6, 23.8
	Lenvatinib	399	66(20-88)	82.0	Asia without Japan (30.8), Western regions and Japan (69.2)	NA, 31.6	99.5	65.7 (15.5, 60.9)	23.8, 75.7	48.4, 21.8
<b>Qin 2022 (SHR-1210-310)</b>	Camrelizumab plus apatinib	272	58(48-66)	83.5	Asia (82.7), non-Asia (17.3)	NA, 55.9	100.0	73.5 (14.7, 64.3)	14.0, 86.0	76.5, 8.1
	Sorafenib	271	56(47-64)	84.9	Asia (82.7), non-Asia (17.3)	NA, 57.2	100.0	73.8 (19.2, 66.4)	14.8, 85.2	72.7, 10.7
<b>Kudo 2022 (RATIONALE-301)</b>	Tislelizumab	342	62(25-86)	84.5	Asia (excluding Japan) (62.9), Japan (11.1), Rest of world (26.0)	53.5, 46.5	99.4	NA (64.0, 14.9)	20.5, 79.5	59.4, 13.5
	Sorafenib	332	60(23-86)	84.6	Asia (excluding Japan) (63.3), Japan (11.7), Rest of world (25.0)	54.5, 45.5	100.0	NA (59.6, 14.8)	24.1, 75.9	62.0, 11.7
<b>Kelley 2021 (COSMIC-312)</b>	Cabozantinib plus atezolizumab	432	64 (58–70)	83.0	Asia (28.0), Europe (35.0), Latin America (9.0), North America (6.0), Australia or New Zealand (6.0), Other (17.0)	64.0, 36.0	100.0	69.0 (31.0, 54.0)	32.0, 68.0	29.0, 31.0
	Sorafenib	217	64 (57–71)	86.0	Asia (29.0), Europe (31.0), Latin America (8.0), North America (7.0), Australia or New Zealand (6.0), Other (19.0)	66.0, 34.0	100.0	68 (28.0, 56.0)	33.0, 67.0	29.0, 31.0
	Cabozantinib	188	64 (58–71)	84.0	Asia (31.0), Europe (31.0), Latin America (11.0), North America (10.0), Australia or New Zealand (3.0), Other (14.0)	67.0, 33.0	100.0	68 (36.0, 54.0)	35.0, 65.0	31.0, 32.0
<b>Abou-Alfa 2022 (HIMALAYA)</b>	TreDur	393	65(22-86)	83.2	Asia (excluding Japan) (39.7), Rest of world (including Japan) (60.3)	62.1, 37.7	99.7	NA (26.2, 53.2)	19.6, 80.4	31.0, 28.0
	Durvalumab	389	64(20–86)	83.0	Asia (excluding Japan) (42.9), Rest of world (including Japan) (57.1)	60.9, 38.6	97.7	NA (24.2, 54.5)	20.6, 79.4	30.6, 27.5
	Sorafenib	389	64(18-88)	86.2	Asia (excluding Japan) (40.1), Rest of world (including Japan) (59.9)	62.0, 37.8	99.2.0	NA (25.7, 52.2)	17.0, 83.0	30.6, 26.7
<b>Ren 2021 (ORIENT-32)</b>	SinBev	380	53(21–82)	88.0	China (100.0)	48.0, 52.0	96.0	80.0 (28.0, 73.0)	15.0, 85.0	94.0, 2.0
	Sorafenib	191	54(28–77)	90.0	China (100.0)	48.0, 52.0	95.0	79.0 (26.0, 75.0)	14.0, 86.0	94.0, 4.0
<b>Qin 2021</b>	Donafenib	328	53(46-62)	86.0	China (100.0)	39.0, 61.0	99.0	73 (NA, NA)	13.0, 87.0	89.0, 2.0

	Sorafenib	331	53(46-61)	88.0	China (100.0)	33.0, 67.0	96.0	73 (NA, NA)	12.0, 88.0	91.0, 2.0
<b>Finn 2020 / Cheng 2021 (IMbrave150)</b>	AteBev	336	64(26-88)	82.0	White (37.0), Asian (56.0)	62.0, 38.0	99.0	77.0 (38.0, 63.0)	15.0, 82.0	49.0, 21.0
	Sorafenib	165	66(33-87)	83.0	White (32.0), Asian (58.0)	62.0, 38.0	100	73.0 (43.0, 56.0)	16.0, 81.0	46.0, 22.0
<b>Yau 2019 (CheckMate459)</b>	Nivolumab	371	65(57-71)	85.0	White (54.0), Asian (44.0), Black (<1.0), Other (1.0)	73.0, 27.0	98.0	75 (33, 60)	14.0, 82.0	31.0, 23.0
	Sorafenib	372	65(58-72)	85.0	White (53.0), Asian (45.0), Black (<1.0), Other (2.0)	70.0, 30.0	96.0	70 (32, 56)	17.0, 78.0	31.0, 23.0
<b>Kudo 2018 (REFLECT)</b>	Lenvatinib	478	63(20-88)	85.0	White (28.0), Asian (70.0), Other (2.0)	64.0, 36.0	99.0	69, (23, 61)	22.0, 78.0	53.0, 19.0
	Sorafenib	476	62(22-88)	84.0	White (30.0), Asian (68.0), Other (2.0)	63.0, 37.0	99.0	71 (19, 62)	19.0, 81.0	48.0, 26.0
<b>Cheng 2009 (Asia-Pacific)</b>	Sorafenib	150	51(23-86)	84.7	Asian (100.0)	25.3, 69.3	97.3	NA, (36.0, 68.7)	NA, 95.3	70.7, 10.7
	Placebo	76	52(25-79)	86.8	Asian (100.0)	27.6, 67.1	97.4	NA (34.2, 68.4)	NA, 96.1	77.6, 3.9
<b>Liovett 2007 (Sharp)</b>	Sorafenib	299	64.9 ± 11.2	87.0	Europe/Australasia (88.0), North America (9.0), Central and South America (3.0)	54.0, 38.0	95.0	70.0 (36.0, 53.0)	18.0, 82.0	19.0, 29.0
	Placebo	303	66.3 ± 10.2	87.0	Europe/Australasia (87.0), North America (10.0), Central and South America (4.0)	54.0, 39.0	98.0	70.0 (41.0, 50.0)	17.0, 83.0	18.0, 27.0