

Supplemental Table 1 Patient characteristics; median (IQR), range

	All patients	^{99m} Tc-MAA	^{99m} Tc-HSA	<i>P</i> *
n	24	12	12	-
Sex (m/f)	18/6	10/2	8/4	1.0
Age (y)	64.6 (52.8/71.6)	66.1 (55.7/72.5)	58.6 (52.8/70.0)	0.46
	46.2-82.2	46.6-82.2	46.2-76.2	
Size (cm)	174 (170/178)	175 (172/178)	174 (169/179)	0.75
	160-86	167-184	160-186	
Weight (kg)	82 (66.8/88.5)	82 (75.0/88.5)	76 (65.5/86.5)	0.29
	49-110	59-110	49-93	
BSA (m ²)	1.98 (1.75/2.08)	1.98 (1.89/2.07)	1.91 (1.75/2.08)	0.36
	1.49-2.24	1.68-2.24	1.49-2.15	
LV (ml)	1,828 (1,425/2,386)	1,815 (1,516/2,706)	1,893 (1,390/2,135)	0.76
	1,108-3,267	1,262 – 3,065	1,108 3,267	
TV (ml)	278.2 (137.8/727.6)	193.6 (88.5/550.9)	384.9 (177.9/1,128)	0.22
	23.4-1894.0	23.4-1298.0	43.5-1894.0	
TL (%)	17.4 (8.2/32.8)	15.3 (5.7/27.4)	20.25 (10.3 /41.5)	0.25
	1.2-70.0	1.2-46.6	3.9-70.0	
LLS# (%)	3.7 (3.0/4.8)	3.9 (3.3 / 5.0)	3.2 (2.8/4.1)	0.26
	2.0-9.8	2.4-9.8	2.0-5.8	

Data are median, interquartile range (25th-75th percentiles), and range.

* Significance of differences between the two sub-groups; chi²-test for categorical variables and *t*-test (two-sided) for scalar variables

LLS calculated from PS1 (1h p.i.).

BSA= Body Surface Area; LV = Liver Volume, TV = Tumor Volume, TL = Tumor Load, LLS = Liver Lung Shunt

Supplemental Table 2. Preparation and handling of particles;

	^{99m} Tc-MAA	^{99m} Tc-HSA	<i>P</i>
Activity per preparation (MBq)	3000 (3000 / 3000), 3000 - 3280	1534 (1500 / 1552), 1400 - 1570	< 0.0001
Time between preparation and application (min)	87.0 (50.0 / 108.0), 22 – 143	43.0 (25.5 / 68.5), 19 - 107	0.065
Applied activity (MBq) ⁺	127.8 (119.5 / 133.7), 90.4 - 144.8	139.9 (134.8 / 143.4), 125.4 - 149.4	0.014
Residual syringe activity (MBq) (at application time)	42.6 (30.6 / 51.6), 15.4 - 72.7	8.8 (6.6 / 20.0), 2.05 - 82.0	0.03
Free ^{99m} Tc-pertechnetate at preparation (%) #	0.015 (0.000 / 0.100), 0.0 - 0.5	1.550 (0.775 / 3.275), 0.0 - 5.0	0.002
Number of injected particles*	189,200 (167,700 / 206,900), 135,700 - 315,300	39,160 (36,660 / 39,840), 21,970 - 42,430	< 0.0001

Data are median, interquartile range (25th-75th percentiles), and range.

⁺ corrected for residual activity in the syringe,

[#] estimated by thin layer chromatography.

* The numbers of particles to be applied were calculated according to the product information sheet (8,9), assuming that 4.5×10^6 particles MAA were labeled with 3 GBq ^{99m}Tc and 4.0×10^5 particles HSA were labeled with 1.5 GBq ^{99m}Tc. The number of injected particles was calculated with respect to the amount of free ^{99m}Tc-pertechnetate.

Supplemental Table 3. Imaging time-points for PS

Time-point (nominally) (h)	Time p.i. (min)		
	All	^{99m} Tc-MAA	^{99m} Tc-HSA
1	60 (54.8/77.5) 32-120	60 (56.5/67.5) 35-100	58.5 (52.3/86.3) 32-120
5	299 (288.8/314.8) 270-355	294 (283.8/301.2) 270-355	303 (293.8/320.5) 283-347
24	1364 (1319/1419) 1070-1770	1370 (1319/1392) 1235-1770	1364 (1335/1425) 1070-1480

Data are median, interquartile range (25th-75th percentiles), and range.

Supplemental Table 4. Change in liver-lung shunt between PS scans; median (IQR), range

Time-point	^{99m}Tc-MAA (%)	^{99m}Tc-HSA (%)	<i>P</i>*
1st scan (1 h)	3.9 (3.3 / 5.0) 2.4–9.8	3.2 (2.8 / 4.1) 2.0–5.8	0.2
2nd scan from 1st scan			
Absolute change	3.6 (2.8 / 4.5) 1.9–5.5	-0.1 (-0.3 / 0.4) -0.75–1.0	< 0.0001
Relative change	82.3 (67.0 / 112.8) 32.4–219.6	-3.1 (-8.0 / 9.5) -24.6–51.7	
3th scan from 1st scan			
Absolute change	5.0 (4.4 / 8.2) 2.8–10.2	1.5 (0.3 / 2.4) -1.4–3.6	< 0.0001
Relative change	127.3 (101.2 / 162.0) 46.6–376.4	41.6 (5.5 / 71.4) -31.6–121.4	

*p significance of difference in LLS estimated by ^{99m}Tc-MAA and ^{99m}Tc-HSA (tested by paired t-tests, two-sided)