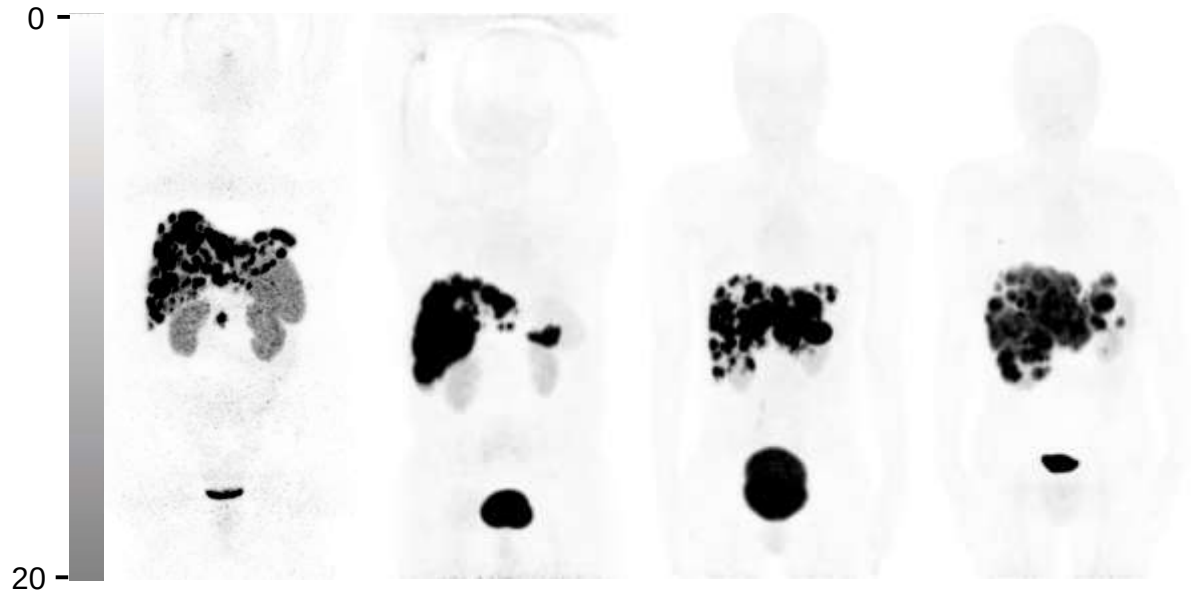

Supplemental Figure 1. Four patients (from left to right: patient #1 in arm A, and patient #2, #7, #16 in arm B) with fulminant hepatic metastases.

Supplemental Table 1. Inclusion and exclusion criteria

Inclusion Criteria
• Written informed consent. • Patients of either gender, aged ⩾ 18 years. • Histologically confirmed diagnosis of Metastatic, well-differentiated neuroendocrine tumor. • A diagnostic computed tomography (CT) or magnetic resonance imaging (MRI) of the tumor region within the previous 6 months prior to dosing day is available. • At least 1 measurable lesion based on RECIST v1.1. • Blood test results as follows (White blood cell: ⩾ 3*10^9/L, Hemoglobin: ⩾ 8.0 g/dL, Platelets: ⩾ 50x10^9/L, Alanine aminotransferase / Aspartate aminotransferase / Alkaline phosphatase: ⩽ 5 times upper limit of normal (ULN), Bilirubin: ⩽ 3 times ULN) • Serum creatinine: within normal limits or < 120 μmol/L for patients aged 60 years or older. • Calculated Glomerular filtration rate (GFR) ⩾ 45 mL/min.
Exclusion Criteria
• Known hypersensitivity to Gallium-68, to NODAGA, to DOTA, to LM3, or to any of the excipients of Gallium-68 DOTA-LM3 or Gallium-68 NODAGA-LM3. • Presence of active infection at screening or history of serious infection within the previous 6 weeks. • Therapeutic use of any somatostatin analog, including long-acting Sandostatin (within 28 days) and short-acting Sandostatin (within 2 days) prior to study imaging. If a patient is on long-acting Sandostatin, then a wash-out phase of 28 days is required before the injection of the study drug. If a patient is on short-acting Sandostatin, then a wash-out phase of 2 days is required before the injection of the study drug. • Prior or planned administration of a radiopharmaceutical within 8 half-lives of the radionuclide used on such radiopharmaceutical including at any time during the current study. • Pregnant or breast-feeding women. • Current history of any malignancy other than neuroendocrine tumor; patients with a secondary tumor in remission of > 5 years can be included. • Any mental condition rendering the patient unable to understand the nature, scope and possible consequences of the study, and/or evidence of an uncooperative attitude.

Supplemental Table 2. The SUVmax and tumor-to-background ratios of 38 reference lesions

Time after injection (minutes)	^{68}Ga-NODAGA-LM3 (N = 18)	^{68}Ga-DOTA-LM3 (N = 20)	P value
	SUVmax		
5	31.3 ± 19.7	36.6 ± 23.6	0.455
15	40.4 ± 25.9	41.9 ± 26.5	0.860
30	47.1 ± 31.0	45.3 ± 29.3	0.858
45	54.9 ± 37.3	46.6 ± 31.2	0.461
60	57.5 ± 39.4	47.2 ± 32.6	0.385
120	74.6 ± 56.3	46.1 ± 30.9	0.058
	Tumor-to-blood-pool ratio		
5	16.4 ± 11.7	15.5 ± 10.0	0.803
15	28.0 ± 20.1	22.8 ± 14.7	0.366
30	45.5 ± 38.6	24.6 ± 15.8	0.044
45	58.8 ± 46.4	32.0 ± 24.4	0.038
60	57.1 ± 38.9	38.4 ± 29.1	0.099
120	74.8 ± 67.2	41.5 ± 41.4	0.071
	Tumor-to-kidney ratio		
5	1.3 ± 0.7	4.8 ± 3.4	<0.001
15	2.0 ± 1.1	7.6 ± 5.9	<0.001
30	2.4 ± 1.4	8.4 ± 6.3	<0.001
45	3.0 ± 1.8	10.3 ± 8.2	0.001
60	3.1 ± 1.9	11.0 ± 9.6	0.002
120	4.0 ± 2.5	10.3 ± 9.2	0.008
	Tumor-to-liver ratio		
5	4.2 ± 2.8	12.5 ± 7.7	<0.001
15	6.2 ± 4.3	16.4 ± 9.2	<0.001
30	7.8 ± 5.8	17.6 ± 9.9	0.001
45	9.4 ± 7.1	18.6 ± 11.6	0.006
60	10.0 ± 7.4	18.5 ± 11.5	0.011
120	12.6 ± 9.5	20.7 ± 12.9	0.035

Supplemental Table 3. Residence times and absorbed doses of liver.

	Patient #*	Arm	Residence time (h)	Absorbed doses (mGy/MBq)
Patients with fulminant liver diseases	1	A	0.448	0.124
	2	B	0.536	0.147
	7	B	0.546	0.150
	16	B	0.719	0.196
Patients without fulminant liver diseases	4	B	0.092	0.028
	5	A	0.144	0.042
	6	A	0.172	0.050
	9	A	0.160	0.046
	10	A	0.165	0.048
	11	A	0.110	0.033
	12	B	0.198	0.052
	13	A	0.169	0.049
	14	A	0.181	0.052
	15	B	0.053	0.017

* Patient #3 and #8 were dropped out.