## Supplemental Table 1.  Plasma S1P levels in RCC patients

Plasma S1P was measured in patients with metastatic RCC (n=69) vs healthy controls (n=28) .   S1P levels were significantly higher in RCC patients ($F_{1,95}$ = 44.71, p < 0.001). Average S1P concentration was 0.689 ± 0.411 mM for RCC patients versus 0.159 ± 0.127 mM for healthy volunteers. S1P was initially measured in 110 individuals. 13 individuals in the control group had S1P levels that were too low to be reliably quantified by the assay. To be conservative, these individuals were excluded from the analysis.

| Group | N | Average | SD |
|---|---|---|---|
| RCC Patients | 69 | 0.689 | 0.411 |
| Controls | 28 | 0.159 | 0.127 |

4.33 fold increase,

$F_{1,95}$ = 44.71, p < 0.001

## Supplemental Table 2.  ASL MRI tumor perfusion changes with Anti-S1p

Tumor perfusion after 8 days of therapy is reduced in the sphingomab treatment group vs the vehicle

(PBS) (p=0.04).

| Group | N | Pct Change (Mean ± SE) |
|---|---|---|
| PBS | 12 | -5.12 (± 3.22) |
| Anti-S1p | 8 | -21.93 (± 8.00) |

$F_{1,18} = 4.924$,  $p = 0.040$