Supplementary Figure S1
Supplementary Figure S2

A

CAR expression

Bcl-xL

Pζ  P28ζ  PBBζ  P28BBζ  FR28BBζ

HMEC-1

HMEC-1PSMA

<1% 2% 2% 1% 2%

66% 71% 74% 66% 2%

8% 24% 15% 30% 1%

B

Fold Induction of Bcl-xL

FR28BBζ

P28BBζ

PBBζ

Pζ

UNTR

Fold Induction

(HMEC-1PSMA/HMEC-1)
### A

<table>
<thead>
<tr>
<th>Tumor Type</th>
<th>Wernicke et al¹</th>
<th>Abdel-Hadi et al²</th>
<th>Samplaski et al³</th>
<th>Haffner et al⁴</th>
<th>Haffner et al⁴</th>
<th>Denmeade et al⁶</th>
<th>Silver et al⁷</th>
<th>Chang et al⁸</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number (%)</td>
<td>Number (%)</td>
<td>Number (%)</td>
<td>Number (%)</td>
<td>Number (%)</td>
<td>Number (%)</td>
<td>Number (%)</td>
<td>Number (%)</td>
</tr>
<tr>
<td>Bladder Cancer</td>
<td>68/92 (74%)</td>
<td></td>
<td></td>
<td>40/94 (43%)</td>
<td>68/92 (54%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast Cancer</td>
<td>75/100 (75%)</td>
<td></td>
<td></td>
<td>110/130 (85%)</td>
<td>3/29 (16%)</td>
<td>5/5 (100%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorectal Carcinoma</td>
<td></td>
<td>34/44 (75%)</td>
<td></td>
<td>110/130 (85%)</td>
<td>3/29 (16%)</td>
<td>5/5 (100%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastric Cancer</td>
<td></td>
<td></td>
<td></td>
<td>79/119 (66%)</td>
<td>5/5 (100%)</td>
<td></td>
<td></td>
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<tr>
<td>Hepatocellular Cancer</td>
<td></td>
<td></td>
<td></td>
<td>39/41 (95%)</td>
<td>5/5 (100%)</td>
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</tr>
<tr>
<td>Melanoma</td>
<td></td>
<td></td>
<td></td>
<td>25/44 (57%)</td>
<td>5/5 (100%)</td>
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<tr>
<td>Non-small cell lung cancer</td>
<td></td>
<td></td>
<td></td>
<td>72/96 (75%)</td>
<td>5/5 (100%)</td>
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</tr>
<tr>
<td>Oral Cancer</td>
<td></td>
<td></td>
<td></td>
<td>25/34 (75%)</td>
<td>5/5 (100%)</td>
<td></td>
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<tr>
<td>Ovarian Cancer</td>
<td></td>
<td></td>
<td></td>
<td>4/4 (100%)</td>
<td>5/5 (100%)</td>
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<tr>
<td>Pancreatic ductal carcinoma</td>
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<td></td>
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<td>44/46 (95%)</td>
<td>8/17 (47%)</td>
<td>11/11 (100%)</td>
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</tbody>
</table>


### B

<table>
<thead>
<tr>
<th>Tumor Type</th>
<th>Less than 50% of tumor vessels are PSMA⁺</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number (%)</td>
</tr>
<tr>
<td>Bladder Cancer</td>
<td>NA (10-100%)¹²</td>
</tr>
<tr>
<td>Breast Cancer</td>
<td>26/48 (54%)¹³</td>
</tr>
<tr>
<td>Colorectal Carcinoma</td>
<td>52/75 (69%), 52/130 (40%)¹⁴</td>
</tr>
<tr>
<td>Gastric Cancer</td>
<td>56/79 (71%)¹⁶</td>
</tr>
<tr>
<td>Oral Cancer</td>
<td>48/72 (67%)¹⁶</td>
</tr>
</tbody>
</table>


### C

**Ovarian cancer**

- 1913: 51% (5%)
- 1965: 5% (10%)

**Endometrial cancer**

- 1797: 12% (5%)

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**Supplementary Figure S3**

The figure shows scatter plots comparing PSMA expression and folate receptor expression for ovarian and endometrial cancer. The plots include data points (x, y) that indicate the relationship between the two markers. The x-axis represents folate receptor expression, and the y-axis represents PSMA expression. The data points are color-coded to show the percentage of tumor cells expressing each marker.
Supplementary Figure S4

A

MS1 Injection T cell injection Sacrifice

Day 0 84 Day 108

C

PBS FR28BBζ P28BBζ

1 cm

B

Endothelial cell luminescence

Tumor volume

MS1 flank

MS1PSMA flank

Time (d)

Volume (mm³)

Luminescence (p/s/cm²/sr)

MS1 flank

MS1PSMA flank

Time (d)

Volume (mm³)

Luminescence (p/s/cm²/sr)

**P < 0.05 * * *
Supplementary Figure S6

A

MS1/ID8VEGF Injection

T cell Injections

Sacrifice

Day 0 25, 28, 31 Day 45

P28BBζ

FR28BBζ

1P28BBζ

B

Endothelial cell luminescence

Tumor volume

MS1 flank

MS1 flank

MS1PSMA flank

MS1PSMA flank

P28BBζ

FR28BBζ

1P28BBζ

Luminescence (p/s/cm²/sr)

Volume (mm³)

Luminescence (p/s/cm²/sr)

Volume (mm³)

* p < 0.05

Time (d) Time (d)

Time (d) Time (d)

Time (d) Time (d)