CLAIMS

1. Use of a toll-like receptor 9 (TLR9) agonist having the structure: 5'-TCG AAC GTT CGA ACG TTC GAA CGT TCG AAT-3' (SEQ ID NO: 1) in the manufacture of a medicament for the treatment of a primary liver cancer.

2. The use of claim 1, wherein the primary liver cancer is hepatocellular carcinoma (HCC) or intrahepatic cholangiocarcinoma (ICC).

3. The use of claim 1, wherein the TLR9 agonist is to be administered through a device by hepatic arterial infusion (HAI).

4. The use of claim 1, wherein the TLR9 agonist is to be administered through a device by portal vein infusion (PVI).

5. The use of claim 1, wherein the TLR9 agonist to be administered is in an amount selected from the group consisting of .01 mg/mL, .04 mg/mL, .08 mg/mL, or .16 mg/mL.

6. The use of claim 1, wherein the TLR9 agonist to be administered is in an amount selected from the group consisting of 0.5 mg, 2 mg, 4 mg, or 8 mg.

7. The use of claim 1, wherein the TLR9 agonist is to be administered through a catheter device.

8. The use of claim 7, wherein the catheter device comprises a one-way valve that responds dynamically to local pressure and/or flow changes.

9. The use of claim 7, wherein the TLR9 agonist is to be administered through the catheter device via pressure-enabled drug delivery.

10. The use of claim 7, wherein the TLR9 agonist is to be administered for a period of time of about 10-200 minutes.

11. The use of claim 10, wherein the TLR9 agonist is to be administered for a period of time of about 10-60 minutes.

12. The use of claim 11, wherein the TLR9 agonist is to be administered for a period of time of about 25 minutes.

13. The use of claim 1, wherein the TLR9 agonist is to be administered in combination with one or more checkpoint inhibitors (CPIs), wherein the CPIs are to be administered systemically, either concurrently, before, or after the administration of the TLR9 agonist.

14. The use of claim 13, wherein the one or more CPIs include at least one of nivolumab, pembrolizumab, and ipilimumab.

15. The use of claim 1, wherein the TLR9 agonist is to be administered according to a dosing regimen comprising cycles, in which one or more of the cycles comprise the administration of the TLR9 agonist via a catheter device by hepatic arterial infusion followed by the systemic administration of the one or more checkpoint inhibitors (CPIs).

16. The use of claim 15, wherein one cycle comprises the administration of an amount of TLR9 agonist once per week over three consecutive weeks.

17. The use of claim 16, wherein the dosing regimen comprises two cycles.

18. The use of claim 15, wherein the one or more CPIs include at least one of nivolumab, pembrolizumab, and ipilimumab.

19. A toll-like receptor 9 (TLR9) agonist having the structure: 5’-TCG AAC GTT CGA ACG TTC GAA CGT TCG AAT-3’ (SEQ ID NO: 1) for use in the treatment of a primary liver cancer.