CLAIMS

What is claimed is:

1. Use of a plurality of human mesenchymal stem cells (hMSCs) in the manufacture of a medicament for treating syncytial cancer *in vivo*, wherein

(a) the plurality of hMSCs comprises at least one type of inhibitory oligonucleotide in an amount that retards tumor growth in the syncytial cancer, and wherein

(b) the use comprises contacting tumor tissue from the syncytial cancer *in vivo* with the plurality of hMSCs under conditions permitting an hMSC of the plurality to form a gap junction channel with a first syncytial cancer cell of the tumor tissue, whereby the inhibitory oligonucleotide is delivered into the first syncytial cancer cell by traversing the gap junction channel and the inhibitory oligonucleotide is delivered into a second syncytial cancer cell of the tumor tissue by traversing a second gap junction channel between the first syncytial cancer cell and the second syncytial cancer cell.

2. The use as recited in claim 1, wherein the inhibitory oligonucleotide does not kill the hMSC before it is delivered to the first syncytial cancer cell.

3. The use as recited in claim 1, wherein the plurality of hMSCs comprises from about 10^4 to about 10^6 hMSCs.

4. The use as recited in claim 1, wherein the inhibitory oligonucleotide is selected from a group comprising miR-16, miR-34a, siRNA that mimics miR-16, siRNA that mimics miR-34a; siRNA that interferes with translation of Cortactin, siRNA that interferes with translation of Akt, siRNA that interferes with translation of Gelsolin, siRNA that interferes with translation of a-Tubulin, siRNA that interferes with translation of GAPDH, and siRNA that interferes with translation of Kras.

5. The use as recited in claim 1, wherein the syncytial cancer is a member of a group comprising cervical cancer, colorectal cancer, melanoma, pancreatic cancer, prostate cancer, non-small cell lung cancers, and Giloma.

6. The use as recited in claim 1, wherein the syncytial cancer is prostate cancer and the inhibitory oligonucleotide is siRNA that mimics miR-16.

7. The use as recited in claim 1, wherein the inhibitory oligonucleotide is introduced in vitro into the plurality of human mesenchymal stem cells (hMSCs) by culturing the plurality in a solution comprising from 3 nm to 150 nm of the inhibitory oligonucleotide.

8. The use as recited in claim 7, wherein the solution further comprises a transfection reagent.

9. A plurality of human mesenchymal stem cells (hMSCs) for use in treating syncytial cancer in vivo, wherein

(a) the plurality of hMSCs comprises an inhibitory oligonucleotide in an amount that retards tumor growth in the syncytial cancer, and wherein

(b) the plurality of hMSCs is to be contacted with a tumor tissue from the syncytial cancer *in vivo* under conditions permitting an hMSC of the plurality to form a gap junction channel with a first syncytial cancer cell of the tumor tissue, whereby the inhibitory oligonucleotide is delivered into the first syncytial cancer cell by traversing the gap junction channel and the inhibitory oligonucleotide is delivered into a second syncytial cancer cell of the tumor tissue by traversing a second gap junction channel between the first syncytial cancer cell and the second syncytial cancer cell.

10. The plurality of hMSCs as recited in claim 9, wherein the inhibitory oligonucleotide does not kill the hMSC before it is delivered to the first syncytial cancer cell.

11. The plurality of hMSCs as recited in claim 9, wherein the plurality comprises from about 10^4 to about 10^6 hMSCs.

12. The plurality of hMSCs as recited in claim 9, wherein the inhibitory oligonucleotide is selected from a group comprising miR-16, miR-34a, siRNA that mimics miR-16, siRNA that mimics miR-34a; siRNA that interferes with translation of Cortactin, siRNA that interferes with translation of Akt, siRNA that interferes with translation of Gelsolin, siRNA that interferes with translation of a-Tubulin, siRNA that interferes with translation of GAPDH, and siRNA that interferes with translation of Kras.

13. The plurality of hMSCs as recited in claim 9, wherein the syncytial cancer is a member of a group comprising cervical cancer, colorectal cancer, melanoma, pancreatic cancer, prostate cancer, non-small cell lung cancers, and Giloma.

14. The plurality of hMSCs as recited in claim 9, wherein the syncytial cancer is prostate cancer and the inhibitory oligonucleotide is siRNA that mimics miR-16.

15. The plurality of hMSCs as recited in claim 9, wherein the inhibitory oligonucleotide is introduced in vitro into the plurality of human mesenchymal stem cells by culturing the plurality in a solution comprising from 3 nm to 150 nm of the inhibitory oligonucleotide.

16. The plurality of hMSCs as recited in claim 15, wherein the solution further comprises a transfection reagent.