CLAIMS

1. Use of a retinoid in the manufacture of a medicament for treating cancer in a subject, wherein the cancer cell is a basal-like cancer, wherein the medicament is to be administered with an anti-cancer therapy.

2. The use of claim 1, wherein the retinoid is a retinoid X receptor alpha (RXR-α) agonist or a retinoic acid receptor alpha (RAR-α) agonist.

3. The use of claim 2, wherein the RXR-α agonist is bexarotene, or retinoic acid.

4. The use of claim 2, wherein the RAR-α agonist is TTNPB, IRX5183 or SY-1425.

5. The use of claim 1, wherein the cancer is selected from the group consisting of triple negative breast cancer or other mesenchymal-like cancers such as head and neck cancer, lung cancer, pancreatic cancer, ovarian cancer, gastric cancer, liver, and colorectal cancer.

6. The use of claim 1, wherein the cancer is a cancer that is resistant to standard-of-care therapies.

7. The use of claim 1, wherein the anti-cancer therapy is a chemotherapeutic agent, an epigenetic-modifying compound, or an immunomodulatory agent.

8. The use of claim 7, wherein the chemotherapeutic agent is paclitaxel or 5-fluorouracil.

9. The use of claim 7, wherein the epigenetic modifying compound is a Class I HDAC inhibitor selected from CI-994 or SBHA.

10. The use of claim 1, wherein the anti-cancer therapy is an inhibitor or regulator of lipid metabolism.

11. The use of claim 10, wherein the inhibitor of lipid metabolism is an inhibitor of long-chain-fatty-acid-CoA ligase (ACSL), carnitine palmitoyltransferase I (CPT1) or mitochondrial thiolase, 3-ketoacyl-coenzyme A thiolase (3-KAT) and Monoacylglycerol lipase (MGLL).

12. The use of claim 11, wherein the inhibitor of CPT1 is etomoxir, perhexiline or oxfenicine.

13. The use of claim 11, wherein the inhibitor of lipid metabolism is an inhibitor of an enzyme involved in fatty acid oxidation pathway.

14. The use of claim 13, wherein the regulator of lipid metabolism is an activator of an enzyme selected from the group consisting of glycerol-3-phosphate acyltransferase (GPAT), 1-acylglycerol-3-phosphate O-acyltransferase (AGPAT), phosphatidic acid phosphatase (PPAP), diglyceride acyltransferase (DGAT).

15. Use of a retinoid in the manufacture of a medicament for treating cancer in a subject, wherein the cancer is a basal-like cancer, and wherein the medicament is to be administered in combination with a chemotherapeutic agent, an epigenetic-modifying compound, an immunomodulatory agent, or an inhibitor of lipid metabolism to the patient.

16. Use of a retinoid in the manufacture of a medicament for treating cancer in a subject, wherein the cancer is a basal-like cancer and wherein the medicament sensitizes the subject to an anti-cancer therapy.

17. A method of identifying an agent that induces mesenchymal-epithelial transition in a cell, the method comprising:
    a) contacting a cell with a test agent to be screened; and
    b) detecting the expression from a promoter of a SERPINE 1;
        wherein a change in expression in SERPINE 1 as compared to control indicates that the test agent is capable of inducing mesenchymal-epithelial transition in the cell.

18. The method of claim 17, wherein the cell is a reporter cell line engineered to express a measurable marker from the promoter of the gene from which expression is to be detected.