CLAIMS

What is claimed is:

1. A method for treating a disease or condition in a mammal which comprises the steps of:

   (a) administering a therapeutically effective amount of a T type calcium channel inhibitor to effectively slow or stop progression of eukaryotic cells through the S, G_2 and M phases of the cell cycle to increase the proportion of the eukaryotic cells in the G_1 phase;

   (b) stopping administration of the T type calcium channel inhibitor for a period of time; and

   (c) administering a dosage selected from the group consisting of a dosage of at least one chemotherapeutic agent, a dosage of radiation, and combinations thereof, to kill the proportion of eukaryotic cells progressing past the G_1 phase of the cell cycle after the stopping of the administration of the T type calcium channel inhibitor.

2. The method of claim 1, further comprising the step of (d) administering a therapeutically effective amount of a T type calcium channel inhibitor to effectively stop or slow progression of the eukaryotic cells past the checkpoint between the G_1 and S phase after administering the dosage selected from the group consisting of a dosage of at least one chemotherapeutic agent, a dosage of radiation, and combinations thereof,.

3. The method of claim 1, wherein the disease or condition is selected from the group consisting of cancer, and pre-cancerous conditions.

4. The method of claim 3, wherein the disease or condition is a tumor.

5. The method of claim 4, wherein the tumor is a cancerous or pre-cancerous tumor.

6. The method of claim 1, wherein the mammal is a human.

7. The method of claim 1, wherein the T type calcium channel inhibitor comprises mibefradil, efonidipine, ethosuxamide, sutinib, TTL-1177 and nickel.

8. The method of claim 1, wherein about 5% to about 25% of the eukaryotic cells have stopped progression at the cell cycle checkpoint between the G_1 and S phase.

9. The method of claim 1, further comprising a method for extended treatment by repeating steps (a) –(c) one or more times.

10. The method of claim 9, wherein the disease or condition is a tumor.

11. The method of claim 10, wherein the tumor is a cancerous or pre-cancerous tumor.

12. The method of claim 11, wherein the cancerous tumor is reduced in size by about 55% over 30 days as compared to a tumor which is only treated with a cytotoxin

13. The method of claim 1, wherein the period of time is about 0 hours to about 336 hours.

14. The method of claim 9, wherein the period of time is about 0 hours to about 336 hours.

15. The method of claim 1, wherein the disease or condition is selected from the group consisting glioblastoma, melanoma, pancreatic cancer, breast cancer and colon cancer.

16. The method of claim 15, wherein the disease or condition is a tumor.

17. The method of claim 16, wherein the tumor is a cancerous or pre-cancerous tumor.

18. The method of claim 1, wherein the therapeutic dosage is a cancer chemotherapeutic.

19. The method of claim 18, wherein the cancer chemotherapeutic is a cytotoxin.

20. The method of claim 19, wherein the cytotoxin comprise an alkylating agent.

21. The method of claim 19, wherein the cancer chemotherapeutic is selected from the group consisting of an anti-metabolite and an anti-mitotic.

22. The method of claim 19, wherein the cancer chemotherapeutic is selected from the group consisting of temozolamide, 5-fluorouracil, 6-mecaptopurine, bleomycin, carboplatin, cisplatin, dacarbazine, doxorubicin, epirubicin, etoposide, hydroxyurea, ifosfamide, irinotecan, topotecan, metotrexate, mitoxantrone, oxaliplatin, paclitaxel, doocetaxol, vinblastine, vincristine, vinorelbine, vindesine, mitomycin C and combinations thereof.

CLAIMS

1. An invention not claimed in any divisional application.