WHAT IS CLAIMED IS:

1. A method of increasing plasma concentration of dUrd in a human subject comprising:

    a. a step of intravenously administering to said human subject a pharmaceutical composition comprising 6R-MTHF at a dose of 5-1000 mg/m^2 in combination with a therapeutically effective amount of at least one anticancer agent;

wherein said administration produces an increased plasma concentration of dUrd.

2. The method of claim 1, wherein the plasma concentration of dUrd in said human subject is increased relative to dUrd plasma levels in a human subject following equimolar administration of LV.

3. The method of claim 1, wherein the mean plasma levels of dUrd in said human subject is greater than mean plasma levels produced in human subjects following equimolar administration of LV.

4. The method of claim 1, where the pharmaceutical composition is administered as a bolus.

5. The method of claim 1, wherein said human subject suffers from cancer.

6. The method of claim 5, wherein said cancer is colorectal cancer.

7. The method of claim 1, further comprising the administration of at least one additional anticancer compound.

8. The method of claim 7, wherein the one additional anticancer compound is selected from the group consisting of oxaliplatin, irinotecan and bevacizumab.

9. A method of inhibiting thymidylate synthase (TS) in a human subject comprising:

a. a step of intravenously administering to said human subject a pharmaceutical composition comprising 6R-MTHF at a dose of 5-1000 mg/m^2 in combination with a therapeutically effective amount of at least one anticancer agent;

wherein said administration produces an increased inhibition of TS relative to a human subject receiving an equimolar dose of LV.

10. The method of claim 9, where the pharmaceutical composition is administered as a bolus.

11. The method of claim 9, wherein said human subject suffers from cancer.

12. The method of claim 11, wherein said cancer is colorectal cancer.

13. The method of claim 9, wherein the at least one anticancer agent is 5-flurouracil (5-FU).

14. The method of claim 13, further comprising the administration of at least one additional anticancer compound.

15. The method of claim 14, wherein the one additional anticancer compound is selected from the group consisting of oxaliplatin, irinotecan and bevacizumab.