

**We claim:**

1. A method of determining whether a compound is effective to increase the level of arginine in a tumor in a subject, comprising:
  - 5 (a) measuring a reference level of arginine in the tumor of the subject before the compound is administered to the subject;
  - (b) measuring a second level of arginine in the tumor of the subject at the trough time-point of the compound after the compound has been administered to the subject; and
  - 10 (c) determining that the compound is effective to increase the level of arginine in the tumor in the subject when the second level of arginine is higher than the reference level of arginine.
2. The method of claim 1, wherein the second level of arginine is measured in a tumor  
15 homogenate.
3. The method of claim 1, wherein the compound is an arginase inhibitor.
4. The method of claim 1, wherein the levels of arginine are measured using HPLC,  
20 mass spectrometry, or LCMS.
5. The method of claim 1, wherein the subject has lung cancer.
6. The method of claim 1, wherein the subject has colon cancer.  
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7. The method of claim 1, wherein the subject has melanoma.
8. The method of claim 1, wherein the subject has breast cancer.
- 30 9. A method of determining whether a compound is effective to increase the level of arginine in a tumor in a subject, comprising:

- (a) measuring the level of arginine in the tumor of the subject at the trough time-point of the compound after the compound has been administered to the subject; and
- (b) determining that the compound is effective to increase the level of arginine in the tumor of the subject when the level of arginine in the tumor is higher than a reference level of arginine.

10. The method of claim 9, wherein the level of arginine in the tumor is measured in a tumor homogenate.

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11. The method of claim 9, wherein the compound is an arginase inhibitor.

12. The method of claim 9, wherein the level of arginine in the tumor is measured using HPLC, mass spectrometry, or LCMS.

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13. The method of claim 9, wherein the subject has lung cancer.

14. The method of claim 9, wherein the subject has colon cancer.

20 15. The method of claim 9, wherein the subject has melanoma.

16. The method of claim 9, wherein the subject has breast cancer.