CLAIMS

1. A mixture for treating a tumor, comprising:

an agent which turns into a hydrogel by addition of calcium ions;

a vehicle carrying the agent in a manner allowing injection of the mixture into a patient; and

radium radionuclides bounded to the agent in a concentration sufficient to treat the tumor by radiotherapy,

wherein the mixture does not include targeting elements which make the mixture suitable for targeted therapy.

2. The mixture as in claim 1, wherein the agent is homogenously dispersed in the vehicle.

3. The mixture as in claim 2, wherein the vehicle comprises an aqueous solution, and the agent is dispersed homogenously in the aqueous solution.

4. The mixture as in claim 1, wherein the agent is included in small particles carried by the vehicle.

5. The mixture as in claim 4, wherein the small particles comprise a metallic core surrounded by the agent.

6. The mixture as in claim 1, wherein the mixture:

does not include calcium; or

does not include a sufficient amount of calcium for turning the agent into a hydrogel.

7. The mixture as in claim 6, wherein the mixture does not include more than 10mM calcium.

8. The mixture as in claim 7, wherein the mixture does not include more than 3mM calcium.

9. The mixture as in claim 1, wherein the mixture is such that the agent turns into a gel by collecting endogenous calcium.

10. A mixture for treating a tumor, comprising:

an agent which turns into a hydrogel by addition of calcium ions;

a vehicle carrying the agent in a manner allowing injection of the mixture into a patient; and

radium radionuclides bounded to the agent in a concentration sufficient to treat the tumor by radiotherapy,

wherein the mixture:

does not include calcium; or

does not include a sufficient amount of calcium for turning the agent into a hydrogel, and

wherein the mixture is such that the agent turns into a gel by collecting endogenous calcium.

11. The mixture as in claim 10, wherein the mixture does not include more than 10mM calcium.

12. A mixture for treating a tumor, comprising:

an agent which turns into a hydrogel by addition of calcium ions;

an aqueous solution carrying the agent in a manner allowing injection of the mixture into a patient, wherein the agent is homogenously dispersed in the aqueous solution; and

radium radionuclides bounded to the agent in a concentration sufficient to treat the tumor by radiotherapy.

13. The mixture as in claim 12, wherein the mixture comprises calcium at a concentration of between 1-10 millimolar.

14. The mixture as in any of claims 1-13, further comprising a substance which regulates immune-checkpoints dispersed in the mixture.

15. The mixture as in any of claims 1-13, further comprising a contrast material.

16. The mixture as in any of claims 1-13, wherein the mixture is thermosensitive such that the viscosity of the mixture increases by at least a factor of two when its temperature increases from room temperature to body temperature.

17. The mixture as in any of claims 1-13, wherein the agent comprises alginate.

18. The mixture as in any of claims 1-13, wherein the agent comprises Pluronics.

19. The mixture as in any of claims 1-13, wherein the radium radionuclides are radium-224 radionuclides.

20. The mixture as in any of claims 1-13, wherein the mixture does not bond to radon and lead.

21. The mixture as in any of claims 1-13, wherein the agent which turns into a hydrogel by addition of calcium ions is between 3.5%-10% of the mixture.

22. The mixture as in any of claims 1-13, wherein the vehicle carrying the agent has a viscosity of at least 50 centipose.

23. The mixture as in claim 22, wherein the vehicle carrying the agent has a viscosity of at least 200 centipose.

24. A medicament for treating a tumor in a patient, comprising:

an agent which turns into a hydrogel in contact with calcium ions;

a vehicle carrying the agent in a manner allowing injection of the mixture into the patient; and

radium radionuclides bounded to the agent, of an activity suitable for treatment of the tumor,

wherein an administration pattern of the medicament comprises injecting calcium into the patient separately from injecting the medicament.

25. The medicament of claim 24, wherein the administration pattern of the medicament comprises injecting the calcium into the patient before injecting the medicament.

26. The method of claim 24, wherein the administration pattern of the medicament comprises injecting the calcium into the patient after injecting the medicament .

27. The method of claim 24, wherein the administration pattern of the medicament comprises concurrently injecting the medicament and the calcium through separate needles.

28. The method of claim 27, wherein the administration pattern of the medicament comprises concurrently injecting the medicament and the calcium through a split needle.

29. A method for generating a mixture for treating a tumor, comprising:

providing an inert excipient;

adding an agent which turns into a hydrogel in contact with calcium ions to the inert excipient;

adding radium radionuclides in a concentration sufficient to treat the tumor by radiotherapy, to the inert excipient, so that the radium radionuclides bound to the agent; and

adding calcium to the mixture after the radium radionuclides are added to the mixture and bounds to the agent.

30. The method of claim 29, wherein adding the agent and the radium to the inert excipient comprises combining the agent and the radium before they are added to the inert excipient, and adding the combination of the agent and the radium together to the inert excipient.

31. The method of claim 29, wherein adding the radium to the inert excipient comprises adding the radium to the inert excipient only after the agent is added to the inert excipient.

32. The method as in any one of claims 29-31, wherein the mixture does not include targeting elements which make the mixture suitable for targeted therapy.