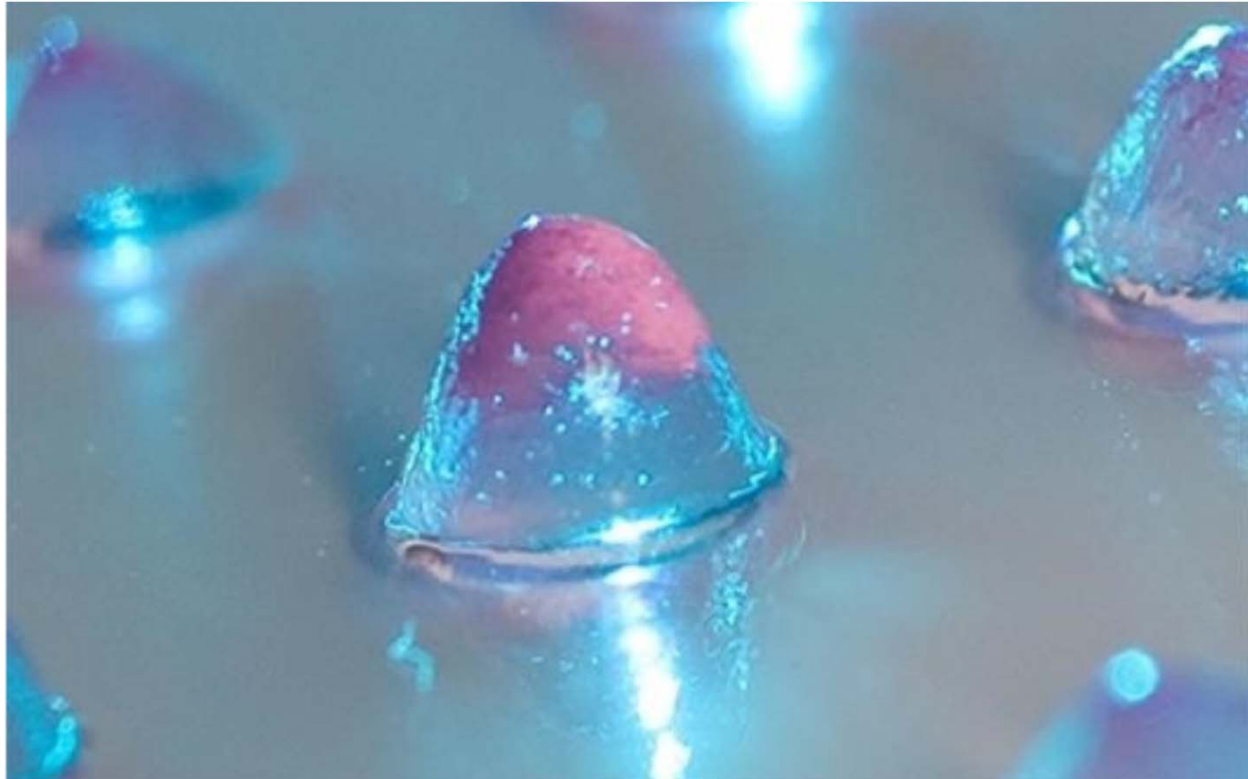


NANOCOMPOSITE HYDROGEL FOR RADIOTHERAPY



PRIORITY NUMBER:

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KEYWORDS:

Health
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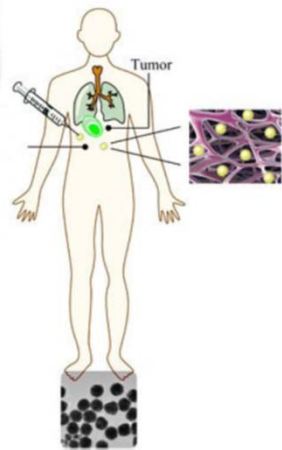
Multifunctional biomaterial consisting of a hydrogel that is administered through an injection directly into the tissue to be treated. The particular composition of the hydrogel allows a gradual release of nanoparticles in the tumor tissue.

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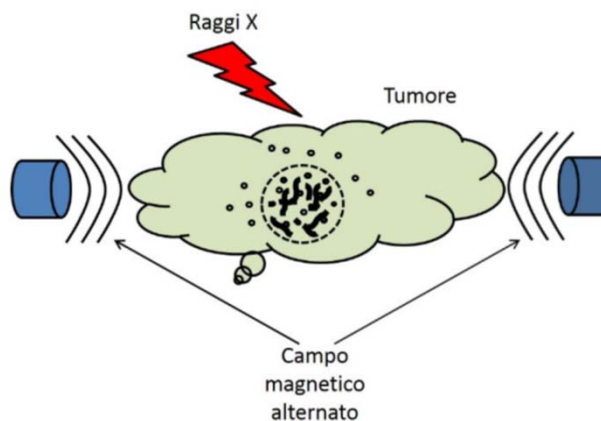


Injection of hydrogel-nanoparticles in the tumoral mass.
Upon injection nanoparticles are gradually released by the hydrogel. The composition of the nanoparticles allows magnetic-hyperthermia treatment and radiotherapy to be carried out in a synergic way.



DESCRIPTION:

Multifunctional biomaterial consisting of a hydrogel that is administered through an injection directly into the tissue to be treated. The particular composition of the hydrogel allows a gradual release of nanoparticles in the tumor tissue, avoiding an excessive dispersion of the same, with the result of prolonging the useful time of action of the nanoparticles and therefore allowing the use of a smaller number of nanoparticles for the treatment. The particular structure of the nanoparticles allows the simultaneous, and symbiotic, action of radiotherapy and hyperthermia, to maximize the effectiveness of treatment against cancer cells.



ADVANTAGES:

- Slow release of the nanoparticles and therefore decrease in the number of intra-tumoral applications.
- The patented Hydrogel allows the simultaneous application of Radiotherapy and Hyperthermia.
- The patented Hydrogel has a high biological compatibility.
- Broad spectrum of application: the types of treatable tumors are diverse.

APPLICATIONS:

- Pharmaceutical applications
- Tumor treatment
- Radiotherapy
- Hyperthermia