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Wrocławskie Centrum
Transferu Technologii

NANOCARGO

Photo/magnetic stimulated nanocargos for superior cancer treatments

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EU Patent: EP20192433.9

Grand Prix of the Innovation Radar Prize 2020 for the best innovators in Europe

DETAILS

Despite some advancements in breast cancer therapy there are still some unmet healthcare needs. New solution provides novel minimally invasive procedure to tackle the breast cancer in advanced clinical stage. Technology establishes connection between conventional chemotherapy, new generation magnetic hyperthermia therapy (MHT) and photothermal therapy (PTT). Multifunctional hybrid nanocarriers, equipped with a kind of biological detector and a dedicated drug, intelligently recognize cancer cells. The tumor is destroyed in three ways simultaneously - through personalized chemotherapy, as well as magnetic hyperthermia and photothermal therapy, which cause local overheating of the tumor cells.

APPLICATIONS/MARKETS

Currently, breast cancer prevention and survival improvement, including better treatment and earlier diagnosis have become significant public health challenges what affected breast cancer therapy market. The invention described above can be applied in to healthcare industry especially to pharmaceutical or nanotechnology companies developing anti-cancer diagnostic, therapies methods.

INNOVATION

- Multifunctionality of nanostructures that can incorporate several functions within a single nanostructure: diagnostics, tumor targeting, treatment;
- Breast cancer targeted therapy and controlled release of therapeutic drug/agents under magnetic and light stimulation;
- Competitive character of the invention – technology is commercially competitive to existing market solutions;
- Minimal invasive breast cancer treatment procedure;
- Cancer visibility increased in multiple imaging modalities;
- Effective monitoring of the breast cancer therapy over time.

IP STATUS: Patent application, Know-how

COMMERCIALIZATION FORM: Sale of the patent, Implementation contract, Granting a license, Other contract

LEVEL OF IMPLEMENTATION READINESS:
Tests in the laboratory conditions



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