



Nanotechnologies by 4ward360

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Nanotechnologies by 4ward360, Italy

Abstract:

Nanotechnologies, that is the technologies of the billionth of a meter dimensional range, have revolutionized the interest of the scientific world and have created the real breakthrough in medicine both from a diagnostic and therapeutic point of view. Nanotechnology is no longer a mirage in medicine, but the most current projection of a present that must only be consolidated and brought to the verification of results.

In fact, nanotechnology is currently offering interesting practical contributions both for the fight against cancer at a diagnostic and therapeutic level and for the enhancement of all antibiotic therapies already known by tackling in a decisive and unequivocal way the widely debated issue about bacterial resistance to antibiotics. Antiviral therapies and the production of monoclonal antibodies with nanotechnology is still the most current avant-garde.

Today, more than ever, the need for prophylaxis from pandemic viruses places the nanotechnological approach fundamental both for the study of viral particles and for the introduction of nanoparticles capable of realizing the prerequisites for a suitable and adequate immune response for prophylaxis.

In particular, before I was talking about nanotechnology in the oncology field, it will suffice to tell you that we have been able to develop special contrast media consisting of nanoparticles which, with their characteristics and thanks to the help of special platforms and technologies, can identify the tumor. with a precision never achieved before.

In line with research from Stanford University and the Memorial Sloan Kettering Cancer Center in the United States, we have developed nanoparticles capable of delineating the margins of brain tumors before and during surgery, offering the neurosurgeon a privileged point of view and enabling him to recognize and also eliminate individual cancer cells. We are also working on other and more complex nano-particles designed for the specific diagnosis of melanoma or cancers of the prostate, liver and lungs. All this only in the diagnostic field!

In the therapeutic one, we are studying a series of nanoparticles able to cross the vessel wall and reach the tumor directly,



accumulating in its system and destroying it both by the activity of the nanoparticles themselves and through their activation by physical systems, with the light or, as in the evidence of current research initiated using microwaves.

Regarding the blood-brain barrier, which has always been a real obstacle to the passage of many drugs, thanks to the studies we have been able to undertake, we have found that some nanoparticles we consider can easily cross it and reach the central nervous system by conferring inhibitory drugs. and not at very low doses, minimal toxicity and high therapeutic success.

Today, the challenge that most engages us is the creation of “nano-vehicles” through which it is possible to improve the stability of some molecules and make them reach the target organ.

Biography:

4ward360 Srl is an Italian company Leader in Nano technological treatments , the Founder is Sabrina Zuccalà, active in the research, development and production of Nano technological formulations for the protection and conservation of material surfaces. In 2008 the company, after years of studies in collaboration with the most important University Institutes and expert researchers, introduced the first Nano technological formulation to the national and international market to confer hydro and oil repellent properties to porous surfaces in general, thus revolutionizing everyone. the traditional conservative protective systems known and used up to now.

[Webinar on Pharmaceutical Nanotechnology | November 30, 2020](#)

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