
# New Nano Cancer Cure

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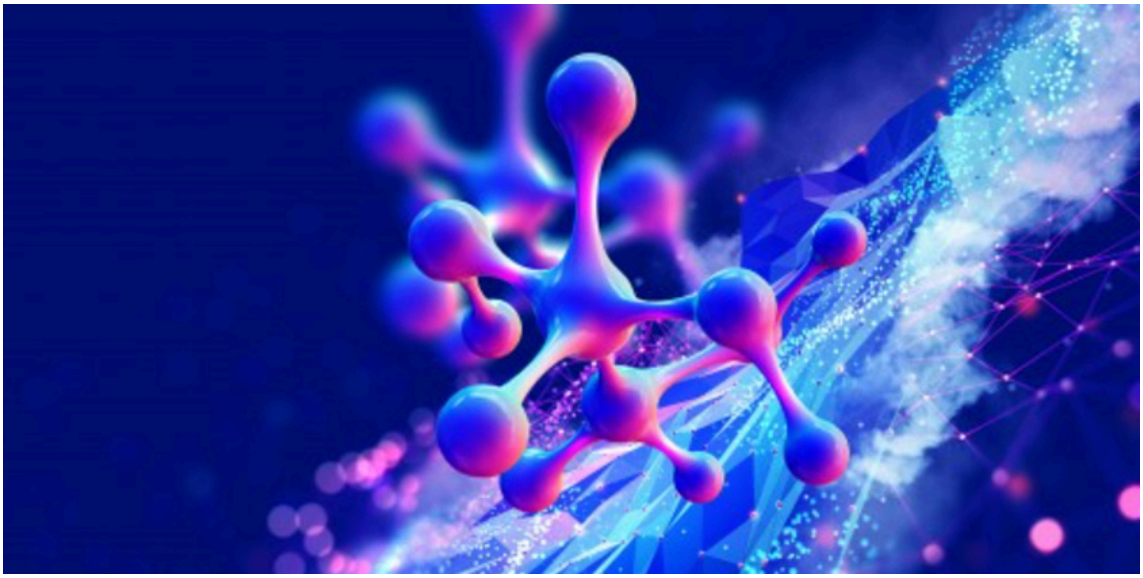

**TOOLS**

## New nanotechnology cancer treatment revealed

*Mouth, head, and throat cancers are common themes in Dental Review, and we will continue to bring news regarding cutting-edge treatment research to our readers.*

*Chulalongkorn University organised an international academic conference entitled "Cutting-edge Nanotechnologies for Good Health and Well-being" to present nanotechnology innovations as new alternatives for cancer treatment. The conference was held from 9-12 July 2024, at the Music Hall, Art and Culture Building, Chulalongkorn University, and the Mandarin Hotel, Bangkok. The organisers offer more details.*

A major problem in cancer treatment is the side effects from chemotherapy. The medical industry has been trying to find cancer treatments that are highly effective but with lower side-effects. Among the current medical advances, besides CAR-T cell therapy, the latest research involves treating cancer using targeted nanotechnology combined with photodynamic therapy.

This is being studied under the "Oxigenated" research project, funded by the Horizon 2020 Marie Skłodowska-Curie Actions (MSCA) Research and Innovation Staff Exchange (H 2020-MSCA-RISE). The research was presented at this conference.

The Oxigenated research project is a study on cancer treatment using nanoparticles to deliver oxygen to cancer cells and stimulate the killing of cancer cells with photodynamic therapy. Asst. Prof. Dr Chanchai Boonla, Department of Biochemistry, Faculty of Medicine, Chulalongkorn University, is the head of this project, which received funding to conduct research from 2019-2024.

The new treatment is a targeted elimination of cancer cells, which greatly helps reduce the chances of side effects for patients during the process. The H 2020-MSCA-RISE has also given funding to two more research projects, namely the SUPRO-GEN, headed by Prof. Dr Pithi Chanvorachote, Associate Dean for Research, Faculty of Pharmaceutical Science, Chulalongkorn University, to be completed in 2026; and the Therabot, a study on an alternative treatment of using bacteria to inhibit and eliminate cancer cells, headed by Asst. Prof. Dr Nattida Chotechuang, Department of Food Technology, Faculty of Science, Chulalongkorn University, which will begin in 2025,

The conference "*Cutting-edge Nanotechnologies for Good Health and Well-being*" is a major gathering of those involved in the medical field, researchers, pharmacists, and scientists from around the world who specifically work on cancer treatment. This serves as a starting point for collaboration between universities, medical schools, startups, and leading public and private organizations. The opening ceremony of the conference took place on 9 July, 2024, at the Music Hall, Art and Culture Building, Chulalongkorn University.

Assoc. Prof. Dr Chanchai Sittipunt, Dean of the Faculty of Medicine, Chulalongkorn University, and Director of King Chulalongkorn Memorial Hospital, gave a welcome speech, followed by opening remarks from H.E. Mr. David Daly, Delegation of the European Union to Thailand, H.E. Mr. Felipe de la Morena Casado, the Spanish Ambassador to Thailand, with Asst. Prof. Dr Sirinan Kulchat, Deputy Director of Program Management Unit for Human Resources & Institutional Development, Research and Innovation (PMU-B), and Dr Sergio Moya, the coordinator of Oxigenated.

Asst. Prof. Dr Chanchai Boonla, Department of Biochemistry, Faculty of Medicine, Chulalongkorn University, head of the MSCA-Rise Oxigenated project, presented at this conference, described the innovative cancer treatment as a technology system for delivering cancer drugs and oxygen to target cancer cells.

It uses nano-protein carriers with haemoglobin as an oxygen carrier and a photosensitiser. When this nano-protein reaches the cancerous area and light is applied, the substance breaks down into free radicals that can eliminate cancer, making cancer treatment more effective. Currently, it is being tested in vitro and in mouse models, with plans for human trials in the near future.

This international conference also included the Spain-Thailand Innovation Forum on 12 July 12, 2024, at Ballroom A, 1st floor, Mandarin Hotel Bangkok. This year, the collaboration of research and development, as well as exchange of knowledge, technology, and innovation between Thai and Spanish researchers and entrepreneurs expanded towards the development of Nano Medicine under the theme "*Harnessing the Potential of Nanotechnology: Future Health, Personalised Medicine and Wellbeing.*" H.E. Mr. Felipe de la Morena and Miss Suchada Thaensap, Secretary to the Minister of Higher Education, Science, Research and Innovation (MHESI), attended the opening of the forum.

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