Release of quercetina and acid 3´5 dimaleamilbenzoic by magnetita nanoparticles (Fe3O4) directed with anti-abcc3 to cancer cells

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Abstract:

The development of cancer is a set of heterotypic interactions that are intimately connected and with systemic events that favor the formation of solid tumors. Innovative treatments propose the use of the combination of drugs that are driven and released to the tumor. The use of nanoparticles (NPs) as carriers of cancer drugs is a novel strategy due to the ease of being able to bind anticarcinogenic drugs, thus opening the opportunity for low-cost and high-performance treatments. The bioconjugation of NPs with specific antibodies that recognize proteins expressed in tumor cells gives them advantages to conduct drugs with greater selectivity and concentration on the site. We have carried out the evaluation of drugs with antioxidant-prooxidant effect: quercetin and dimaleamilbenzoic acid 3'5 respectively, drugs that in combination, were evaluated in vitro with human cancer cells as in vivo and ex-vivo in animal models, demonstrating their anti-cancer effect without damaging the non-cancerous cells (Patent MX/a/2018/008239). The sum of our previous work and as a corollary encouraged us to develop a targeted treatment using magnetic NPs bioconjugated with the anti-ABCC3, molecule that has been proposed as a tumor marker protein (Patent MX/a/2015/016721). The culmination of this project focuses on undertaking pilot studies for the use of this treatment in patients

Biography:

Gabriela Carrasco Torres is a PhD student in Nanosciences and Nanotechnology at the Center for Research and Advanced Studies of the I.P.N. She has been awarded Honorable Mention in her undergraduate and graduate studies, obtaining outstanding awards. She is the author of international and national publications in indexed journals, in addition to her direct participation in patents that are part of his career in the scientific field

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