ABSTRACT ID: EG1909762

TÍTULO: GlycoNanoMed Antibody functionalized nanomedicine targeting CA19-9 positive gastric cancer cells

OBJECTIVO:
INTRODUÇÃO: Gastric cancer is a major cause of death worldwide, remaining an important health issue. Gastric cancer cells in hypoxic areas of the tumor have been shown to overexpress sialyl-Lewis A (sLea) antigen, a biomarker for non-invasive follow-up of gastrointestinal cancers (CA19-9 test). Polymeric nanoparticles systems have great potential for drug delivery since they improve the efficacy and pharmacokinetics of bioactive agents, thereby reducing systemic toxicity. Objective: The aim of this work was the development of polymeric nanoparticles with cisplatin encapsulated and the sLea as ligand for gastric cancer cells.

MATERIAL E MÉTODOS:
Formulation of polymers PLGA, cisplatin were completely stable and characterized. The polymer nanoparticles were functionalized with CA19-9 mAb by EDC-NHS coupling chemistry. To verify the binding of this nanocomplex to target cells, they were used to label sections of human gastric tissue by immunohistochemistry.

RESULTADOS: HPLC method demonstrates an association efficiency for PLGA-Cisplatin about 30%. Labeled tissue sections were examined by confocal microscopy indicated that these bioconjugates nanoparticles can bind selectively to sLea positive gastric cancer tissue.

DISCUSSÃO: We describe the development of a ligand targeted PLGA nanoparticles with cisplatin encapsulated. This nanocomplex can greatly increase the effectiveness of the anticancer drug and reduce the side effects.

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