Organic and Inorganic Nanoparticles for Prevention and Diagnosis of Gastric Cancer

Por: Oyarzun-Ampuero, F (Oyarzun-Ampuero, Felipe)[1,2]; Guerrero, A (Guerrero, Ariel)[2,3]; Hassan-Lopez, N (Hassan-Lopez, Natalia)[2,3]; Morales, JO (Morales, Javier O.)[1,2]; Bollo, S (Bollo, Soledad)[2,3]; Corvalan, A (Corvalan, Alejandro)[2,4]; Quest, AFG (Quest, Andrew F. G.)[2,5]; Kogan, MJ (Kogan, Marcelo J.)[1,2]

CURRENT PHARMACEUTICAL DESIGN
Volumen: 21
Número: 29
Páginas: 4145-4154
DOI: 10.2174/1381612821666150901095538
Fecha de publicación: 2015
Ver información de revista

Resumen

Organic and inorganic nanoparticles show great potential for cancer diagnosis and treatment. Because gastric cancer (GC) represents the second most deadly type of neoplasia worldwide, continued research efforts by scientists and clinicians are essential to improve diagnosis and treatment. This paper reviews significant findings in the area of nanoparticles (organic and inorganic origin) that may aid in prevention and diagnosis of GC. This review focuses in the first section on H. pylori and the connection to GC, highlighting nanoformulations designed to control bacterial growth. The second section evaluates the potential of different imaging techniques (especially using inorganic nanoparticles) in the detection of GC, and the third section summarizes how nanotechnology may be employed in the analytical detection of GC biomarkers (metallic plasmons, electrochemical biosensors and colorimetric sensors). We foresee that the prevention and diagnosis of GC will require the development of complex collaborative studies. Additionally, scientists also need to be tightly connected to industry in order to facilitate upscaling and rapid transfer of promising products to the clinic.

Palabras clave

Palabras clave de autor: Nanocarriers; biomarkers; drug delivery; Helicobacter pylori; gastric cancer; epigenetic
KeyWords Plus:HELICOBACTER-PYLORI INFECTION; ENHANCED RAMAN-SCATTERING; DRUG-DELIVERY SYSTEMS; GOLD NANOPARTICLES; IN-VIVO; CHITOSAN/HEPARIN NANOPARTICLES; ELECTROCHEMICAL DETECTION; TARGETED NANOPARTICLES; GLIADIN NANOPARTICLES; MULTIVARIATE-ANALYSIS

Información del autor

Dirección para petición de copias: Kogan, MJ (autor para petición de copias)

Univ Chile, Fac Ciencias Quim & Farmaceut, Santos Dumont 964, Santiago, Chile.

Direcciones:

[1] Univ Chile, Fac Ciencias Quim & Farmaceut, Dept Ciencias & Tecnol Farmaceut, Santiago, Chile

[2] Univ Chile, Fac Ciencias Quim & Farmaceut, Adv Ctr Chron Dis ACCDiS, Santiago, Chile

[3] Univ Chile, Fac Ciencias Quim & Farmaceut, Dept Quim Farmacol & Toxicol, Santiago, Chile

[4] Pontificia Univ Catolica Chile, Ctr Invest Oncol CITO, Santiago, Chile

[5] Univ Chile, Fac Med, Lab Cellular Commun, Santiago 7, Chile

Direcciones de correo electrónico:mkogan@ciq.uchile.cl

Financiación

Entidad financiadora	Número de concesión
Fondecyt	11121481 1130425 3150360 3140489 1111014 1130250 11130235
Ring grant	1111

Ver texto de financiación

Editorial

BENTHAM SCIENCE PUBL LTD, EXECUTIVE STE Y-2, PO BOX 7917, SAIF ZONE, 1200 BR SHARJAH, U ARAB EMIRATES

Categorías / Clasificación

Áreas de investigación: Pharmacology & Pharmacy

Categorías de Web of Science: Pharmacology & Pharmacy

Información del documento

Tipo de documento: Article

Idioma: English

Número de acceso: WOS:000362584200003

ID de PubMed: 26323433

ISSN: 1381-6128

eISSN: 1873-4286

Información de la revista

- **Impact Factor:** Journal Citation Reports®