

NMR and molecular dynamics studies combined to anti-cancer nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations

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Abstract

In the current research, NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations are considered. The early diagnosis of cancer is very important for patient treatment and recovery. If cancers can be confirmed and classified at an early stage, the patient survival rate can be greatly improved. Current clinical cancer diagnostic techniques can be divided into two catalogs: tissue imaging and NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations.

Introduction

Biomarkers can be used for cancer identification in most cases. Some biomarkers exhibit resonance with THz waves, so NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations can be a tool for biomarker identification in cancer tissue. However, the low concentrations of biomarkers and the presence of various outer substances in the cancer tissue make it difficult to identify biomarkers in real tissues. Therefore, current NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations technologies can only identify biomarkers in engineered mixtures with no more than ten substances. NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations is an inelastic scattering process in which photons incident on a sample transfer energy to or from molecular vibrational modes. It is a coherent two-photon process in which a molecule simultaneously absorbs an incident photon and emits a NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations, accompanied by its transition from one energy level to another, giving rise to a frequency (i.e., energy) shift of the emitted photon. Because the energy levels are unique for every molecule, NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations are chemical-specific. Individual bands in the NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations

are characteristic of specific molecular motions. NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations is particularly amenable to in vivo measurements, because the powers and excitation wavelengths that are used do not affect the tissue and the penetration depth is relatively large [1-10].

Results and discussion

NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations presented here have demonstrated the feasibility of using THz technologies in cancer diagnosis. However, additional development is needed before these technologies can be practically applied for the early diagnosis of cancer. Future developments of THz technologies for cancer diagnosis include combining THz imaging with THz NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations fingerprinting of biomarkers to realize qualitative identification and quantitative analysis simultaneously. To achieve this

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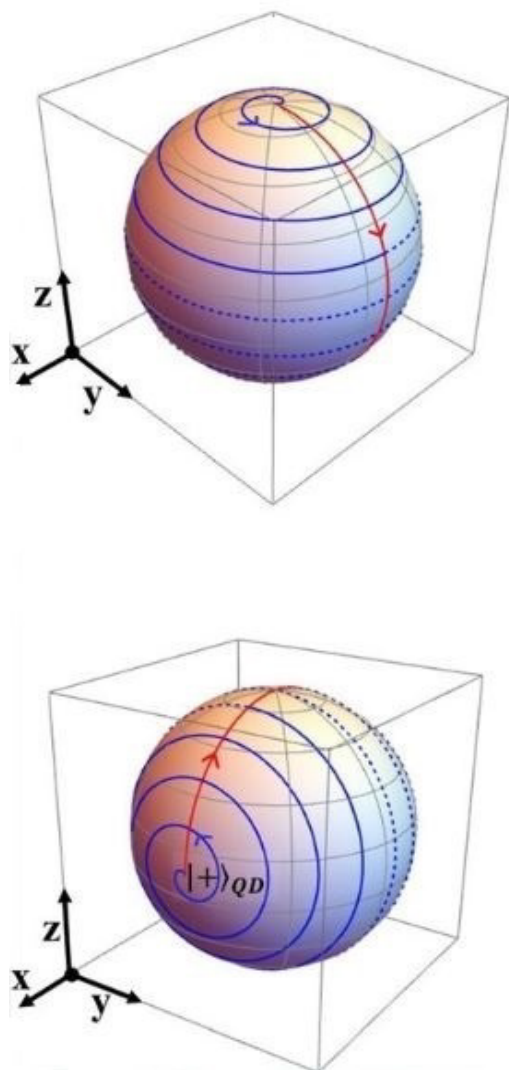


Figure 1. NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations

objective, further improvements in THz systems and auxiliary methods are needed (Figure 1).

Conclusion

NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their

modulations with resistance mutations have been developed to address these issues. These methods included the use of contrast agents, optical cleaning agents, antibodies, and metamaterials to enhance the NMR and molecular dynamics studies combined to anti-cancer Nano drugs and DNA/RNA interactions in gum cancer cells and their modulations with resistance mutations. However, sample contamination by additional substances is unavoidable. Antibodies have been combined with metamaterial biosensors to achieve highly sensitive biomarker detection. However, the process of developing antibodies for biomarkers is complicated, and antibodies may not be available for some cancer biomarkers.

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