Application of anti–cancer nano drugs particles (ACNDP) to NMR characterization of viral gum cancer cell membrane DNA/RNA interactions for extracting DNA/RNA dynamics information from overlapped NMR signals using relaxation dispersion difference NMR spectroscopy

Alireza Heidari[1,2]* and Ricardo Gobato[3]

[1]Faculty of Chemistry, California South University, 14731 Comet St. Irvine, CA 92604, USA

[2]American International Standards Institute, Irvine, CA 3800, USA

[3]Green Land Landscaping and Gardening, Seedling Growth Laboratory, 86130–000, Parana, Brazil

Abstract

In the current investigation, application of anti–cancer Nano drugs particles (ACNDP) to NMR characterization of viral gum cancer cell membrane DNA/RNA interactions for extracting DNA/RNA dynamics information from overlapped NMR signals using relaxation dispersion difference NMR spectroscopy are studied. NMR spectroscopy can also give an objective and reliable decision about malignancy and early malignant stages of anti–cancer Nano drugs particles (ACNDP) to NMR characterization of viral gum cancer cell membrane DNA/RNA interactions for extracting DNA/RNA dynamics information from overlapped NMR signals using relaxation dispersion difference NMR spectroscopy. This technique could help medical professionals in assessing with a clinically relevant specificity and sensitivity the location for most representative biopsies.

Introduction

To address the progress of the companies that are developing/ have developed commercial anti–cancer Nano drugs particles (ACNDP) to NMR characterization of viral gum cancer cell membrane DNA/RNA interactions for extracting DNA/RNA dynamics information from overlapped NMR signals using relaxation dispersion difference NMR spectroscopy oncological applications towards implementation in the clinics, we have contacted leading companies in anti–cancer Nano drugs particles (ACNDP) to NMR characterization of viral gum cancer cell membrane DNA/RNA interactions for extracting DNA/RNA dynamics information from overlapped NMR signals using relaxation dispersion difference NMR spectroscopy to collect information [1-10].

Results and discussion

Prior to the development of technological tools aiming to improve diagnosis and/or treatment of gum cancer, it is important to define the actual clinical needs, because various clinical problems have different needs and solutions. Currently, two main oncological clinical needs, which could be fulfilled by application of anti–cancer Nano drugs particles (ACNDP) to NMR characterization of viral gum cancer cell membrane DNA/RNA interactions for extracting DNA/RNA dynamics information from overlapped NMR signals using relaxation dispersion difference NMR spectroscopy, have been identified: (A) diagnostic tools for biopsy guidance for early diagnosis of (pre–) malignant, and (B) tools for surgery guidance, which can be used for intra–operative assessment of resection margins to achieve adequate tumor resection (Figure 1).
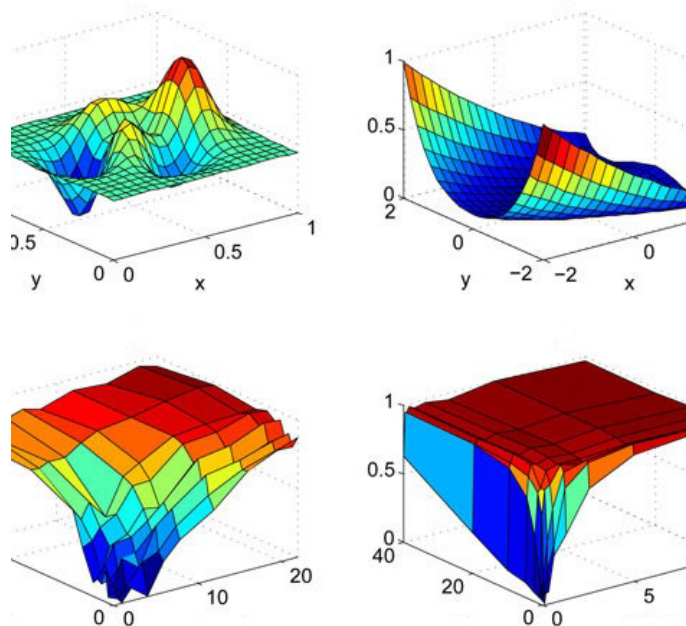
Conclusion

Anti–cancer Nano drugs particles (ACNDP) to NMR characterization of viral gum cancer cell membrane DNA/RNA interactions for extracting DNA/RNA dynamics information from overlapped NMR signals using relaxation dispersion difference NMR spectroscopy has been explored for oncological applications in numerous studies, employing various types of measurement systems, and targeting various types of gum cancers. This section also provides a review of the use of anti–cancer Nano drugs particles (ACNDP) to NMR characterization of viral gum cancer cell membrane DNA/RNA interactions for extracting DNA/RNA dynamics information from overlapped NMR signals using relaxation dispersion difference NMR

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Figure 1. Anti–cancer Nano drugs particles (ACNDP) to NMR characterization of viral gum cancer cell membrane DNA/RNA interactions for extracting DNA/RNA dynamics information from overlapped NMR signals using relaxation dispersion difference NMR spectroscopy

spectroscopy ex vivo and in vivo for early diagnosis, biopsy guidance and surgery guidance of different types of gum cancer. Based on the search terms, 42 research papers on oncological applications of anti–cancer Nano drugs particles (ACNDP) to NMR characterization of viral gum cancer cell membrane DNA/RNA interactions for extracting DNA/RNA dynamics information from overlapped NMR signals using relaxation dispersion difference NMR spectroscopy were included.

References

1. Heidari A, Brown C (2015) Study of composition and morphology of cadmium oxide (CdO) nanoparticles for eliminating cancer cells. *J Nanomed Res* 2(5): 20.

2. Heidari A, Brown C (2015) Study of surface morphological, phytochemical and structural characteristics of rhodium (III) oxide (Rh_2O_3) nanoparticles. *International Journal of Pharmacology, Phytochemistry and Ethnomedicine* 1(1): 15-19.

3. Heidari A (2016) An experimental biospectroscopic study on seminal plasma in determination of semen quality for evaluation of male infertility. *Int J Adv Technol* 7: e007.

4. Heidari A (2016) Extraction and preconcentration of N–Tolyl–Sulfonyl–Phosphoramid–Saeure–Dichlorid as an anti–cancer drug from plants: a pharmacognosy study. *J Pharmacogn Nat Prod* 2: e103.

5. Heidari A (2016) A thermodynamic study on hydration and dehydration of DNA and RNA−Amphiphile Complexes. *J Bioeng Biomed Sci* S: 006.

6. Heidari A (2016) Computational studies on molecular structures and carbonyl and ketene groups' effects of singlet and triplet energies of Azidoketene O=C=CH–NNN and Isocyanatoketene O=C=CH–N=C=O. *J Appl Computat Math* 5: e142.

7. Heidari A (2016) Study of irradiations to enhance the induces the dissociation of hydrogen bonds between peptide chains and transition from helix structure to random coil structure using ATR–FTIR, Raman and ^{1}HNMR Spectroscopies. *J Biomol Res Ther* 5: e146.

8. Heidari A (2016) Future prospects of point fluorescence spectroscopy, fluorescence imaging and fluorescence endoscopy in photodynamic therapy (PDT) for cancer cells. *J Bioanal Biomed* 8: e135.

9. Heidari A (2016) A bio–spectroscopic study of DNA density and color role as determining factor for absorbed irradiation in cancer cells. *Adv Cancer Prev* 1: e102.

10. Heidari A (2016) Manufacturing process of solar cells using cadmium oxide (CdO) and rhodium (III) Oxide (Rh_2O_3) nanoparticles. *J Biotechnol Biomater* 6: e125.