

3rd International Conference on **Integrative Biology**

August 04-06, 2015 Valencia, Spain

Fluorescence studies of new potential antitumoral N-(2 and 3-methoxyphenyl) thieno [3, 2-b] pyridin-7-amines encapsulated in nanoliposomes

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New fluorescent N-(2 and 3-methoxyphenyl) thieno [3, 2-b] pyridin-7-amines were synthesized by C-N coupling of 7-bromothieno [3, 2-b] pyridine with 2 or 3 methoxy anilines and gave very low growth inhibitory (GI₅₀) values when studied in human tumor cell lines but also in non-tumor cells. So, pursuing a future clinical administration of these compounds, they were encapsulated in nanoliposomes due to the toxicity presented in vitro in non-tumor cells. The compounds are reasonably fluorescent in solvents of different polarity exhibiting fluorescence quantum yields between 10% and 60%. Nanoliposomes are technological developments for the encapsulation and delivery of bioactive agents. Because of their biocompatibility and biodegradability along with their size, nanoliposomes have potential applications in a vast range of fields including nanotherapy. Nanoliposomes are able to enhance the performance of bioactive agents by improving their bioavailability in vitro and in vivo stability as well as preventing their unwanted interactions with other molecules. These compounds have been successfully encapsulated in different nanoliposome formulations as revealed by fluorescence emission and fluorescence anisotropy measurements. These results are important for future drug delivery developments using these compounds as antitumor agents.

Biography

Maria-Joao R P Queiroz has completed her first degree in Pharmaceutical Sciences in the University of Porto-Portugal (1986), PhD in Organic Chemistry (1993) in the University of Minho- Portugal and carried out Postdoctoral studies in the University of Metz-France (1994). She is a Coordinator Researcher since June 2009 and was the Director of the Chemistry Research Centre of the University of Minho from January 2010 to March 2015. She has published more than 110 papers in reputed journals of Organic Chemistry and Medicinal Chemistry and attended more than 150 conferences around the world. She was also responsible for several financed projects in medicinal chemistry coordinating different teams.

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