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Ruthenium organometallic compounds as promising anti-metastatic drugs for breast cancer chemotherapy

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Ruthenium complexes are the most widely studied non-platinum metallodrugs and hold great potential as alternatives in cancer therapy. During the recent years our group has been putting a significant effort on the synthesis of new half sandwich "Ru(η^5-C_5H_5)" derived compounds which cytotoxicity was found, in most of the cases, better than that of cisplatin against several cancer cell lines of typically low, medium and high resistance to metallodrugs. Our studies *in vivo* involving triple negative breast cancer (TNBC) tumors showed that our Lead compound had the dual capacity to inhibit the development of metastasis and to suppress significantly the tumour growth. We will report here our progressing studies concerning our Lead drug, such as uptake and cell death mechanisms, modulation, biodistribution, blood speciation, just to give some examples, considered crucial to the progression of our drug into clinical evaluation. Our gathered results indicate so far the relevance of this new family of half sandwich compounds as potential anticancer agents with particular importance for TNBC for which there is not available in clinic any efficient chemotherapeutic agent.

Biography

M Helena Garcia is Associate Professor with Habilitation at University of Lisbon. She authored over eighty publications and several book chapters and has been leader of several national and European funded scientific research projects; she is Member of the "Division of Organometallic Chemistry" of European Association for Chemical and Molecular Sciences, as delegate of Portuguese Chemical Society, since 1992 and is Coordinator of the International Office at Faculty of Sciences of University of Lisbon.

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