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Targeted drug delivery to enhance cancer therapy and reduce its side effects

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Most cancer chemotherapeutics lack tissue specificity, resulting in many undesirable side effects. Delivering drugs selectively to the tumour tissues could ultimately increase local drug concentrations at the tumor without the need to escalate the administrated doses in patients. A wide range of drug delivery systems has been developed to alter the pharmacokinetics of the drug molecules and enhance their tumour targeting. Furthermore, several approaches have been explored to increase the bioavailability of drugs at the site of action, utilizing the unique characteristics of the tumor microenvironment, such as overexpressed enzymes, acidic pH and hypoxia, or using external triggers such as heat, ultrasound and light. In this talk, we will describe the latest delivery systems that we have developed in our laboratory to enhance the tumour accumulation of anticancer drugs, utilising internal and external triggers.

Biography

Wafa T Al-Jamal is an overseas and a UK-registered Pharmacist. She completed her PhD in Drug Delivery in 2008 at UCL School of Pharmacy, London. She is currently a Prostate Cancer Research Fellow at School of Pharmacy, University of East Anglia (UEA). She joined UEA as a Lecturer in Drug Delivery and Nanomedicine in 2013, after working as a Senior Research Fellow at University College London and King's College London. She has won GSK Emerging Scientist Award for 2015. Her main research interest focuses on "Engineering novel nanomaterials for biomedical applications". She has published over 35 papers in high impact journals. Currently, she is a member of PCUK Research Advisory Committee and Visiting Professor at Guizhou Medical School, China.

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