Australian National University

STAFF LECTURE

A novel cellular pathway limiting anticancer drug delivery to cancer cells

Tuesday 16 October 2012 1pm

Associate Professor Mary Bebawy Graduate School of Health, The University of Technology Sydney

Slatyer Seminar Room RN Robertson Building (46), ANU

One of the main causes of anticancer treatment failure is the emergence of multidrug resistance (MDR). This occurs when cells following exposure to a single chemotherapeutic agent become cross resistant to many structurally and functionally unrelated drugs. MDR is attributed to the overexpression of multidrug efflux transporters in cancer cells. Ubiquitous markers of MDR include the multidrug transporters, P-glycoprotein and the Multidrug Resistance Associated Protein. We recently discovered a novel intercellular pathway mediated by membrane microparticles, for the acquisition and dissemination of MDR in vitro and in vivo. These microparticles serve as vectors for cell to cell transfer of functional resistance proteins, transcripts and regulatory nucleic acids and have emerged as important players in regulating cancer trait dominance. Microparticles also provide a parallel resistance pathway through their role in drug sequestration.

Mary Bebawy is Associate Professor of Pharmacy at the Graduate School of Health, The University of Technology Sydney. She currently holds the position of Responsible Academic Officer for Research for the Graduate School of Health, UTS. She specializes in the role and regulation of the xenobiotic cascade in drug disposition and in cancer multidrug resistance. Her research is currently funded by the NSW Cancer Council (2009-2012)(RG 09-02) and NHMRC (2011-2013, APP1007613)

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