457d Targeting Cd47 as an Apoptotic Trigger of Human Lung Carcinoma Tumors

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CD47 is a ubiquitously expressed plasma membrane protein, also known as Integrin Associated Protein (IAP) implicated in the modulation of integrin functions, such as cell adhesion, phagocytosis, and cellular migration events. We show that soluble antibody mediated ligation of CD47 induces apoptosis of human lung and ovarian carcinomas. This CD47-mediated apoptotic event is accompanied by the loss of mitochondrial cell membrane potential, positive annexin V, propidium iodide staining, and a severe loss of cell adherence. We further explore mechanistic aspects of CD47 triggered apoptosis by probing: (i) whether the apoptotic pathways are caspase dependent or independent, (ii) disruption of CD47-SIRP (its natural ligand) interactions, and (iii) the role of matrix stiffness and integrins on this anchorage dependent apoptotic event.