METABOLIC LABELING OF CANCER CELLS USING GLYCODENDRIMERS TO STIMULATE IMMUNE-MEDIATED CYTOTOXICITY

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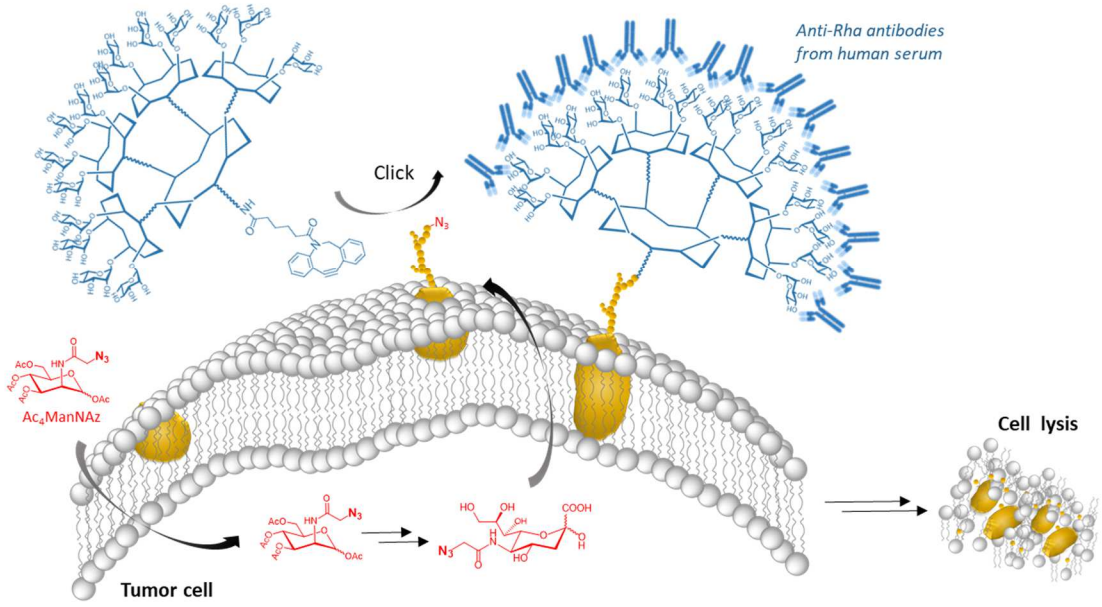
The recruitment of immune actors, particularly, antibodies naturally present in the human serum on the surface of cancer cells, has proved to be a promising immunotherapy strategy to fight cancer. Antibody recruitment molecules (ARMs) combining tumour-antibody binding modules were developed for this purpose,[1-3] however the formation of the ternary complex between these bimodal molecules with both antibodies and cells is difficult to optimize to stimulate immune-mediated cytotoxicity. To overcome this limitation, we have opted for a more direct approach combining azido-sugar cell metabolism and biorthogonal click chemistry to conjugate glycodendrimers structurally well defined as antibody binding module (ABM) to the cell glycocalyx. We have shown that this strategy not only allows the recruitment of natural antibodies on the surface of isolated cells or solid tumor models, but also activates a cytotoxic response with human serum as a single source of immune effectors. [4]



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