

Title	Glycotarget: Designing a new generation of antibody-enzyme conjugates for cancer immunotherapy through glyocalyx editing
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Keywords	Cancer; Sialic Acid; Immunotherapies; Siglecs; Immune-checkpoint
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Summary	<p>The main objective of the present proposal is to explore a new immunotherapeutic approach for the treatment of cancer, while providing the student with skills and knowledge in the fields of glycobiology, immunology, structural biology and oncology. It is now well established that many types of cancer can coat their cell membranes with sialic acid containing “self”-ligands, aiming to dampen the host’s immune responses. A sub-family of immune cell receptors, called inhibitory Sialic acid-binding ImmunoGlobulin-like LECTins (Siglecs), can recognize these ligands and suppress immune response. This allows the tumoral cells to avert detection and elimination, allowing disease progression. The goal of this project is to develop antibody-enzyme conjugates capable of selectively removing the sialic acid from tumoral ligands of inhibitory Siglecs, promoting tumor cell elimination. This includes the characterization and engineering of new sialidases, their conjugation with an antibody and in vitro and in vivo testing of the new conjugates.</p>
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Supervision	
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