MUSC
Medical University of South Carolina

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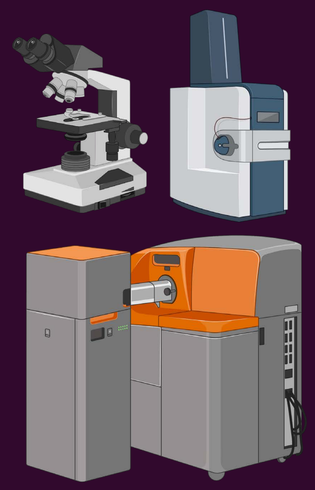


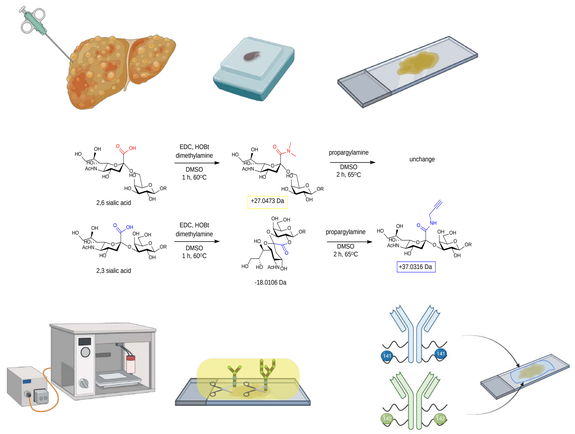
Imaging mass spectrometry reveals sialylated glycans and activated lymphocytes in non-alcoholic steatohepatitis.

Research Question

How does protein glycosylation alter immune infiltration in Non-Alcoholic Steatohepatitis?

Proteins are modified with distinct complex carbohydrates called glycans which modulate their function. Changes in fucose and sialic acid content have been implicated in many different diseases. Sialylated glycans can promote or inhibit inflammation depending on cell type and glycan structure.

Methods



MALDI glycan imaging data was collected using a Bruker timsTOF flex in positive ion, reflector mode at 20 µm raster spanning m/z range 600-4500. Detailed methods and antibody panel available in the QR code.

Future Directions

Analysis of a cohort of >100 biopsies from the entire spectrum of non-alcoholic fatty liver disease. Inclusion of antibodies to Siglec proteins, which inhibit inflammation in response to specific sialylated glycan linkages.

Acknowledgements

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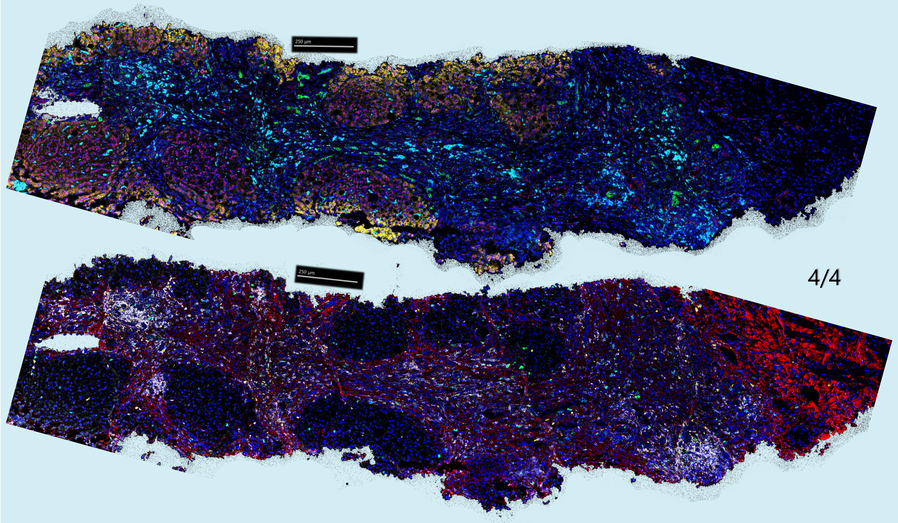
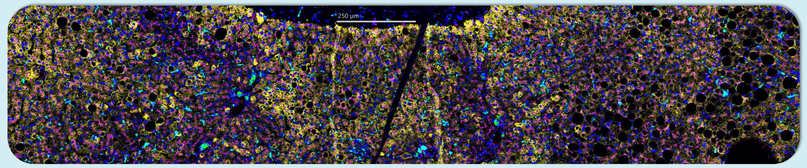
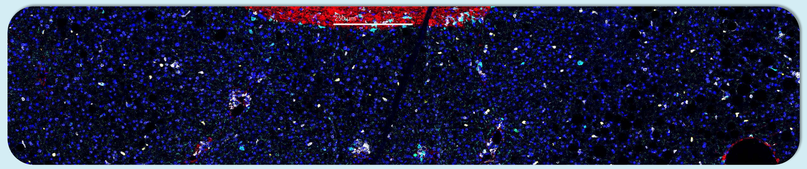


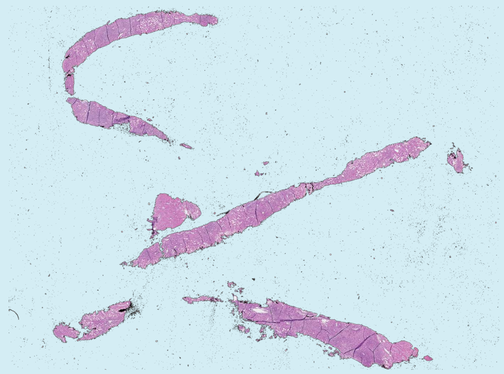
191 Ir DNA
175 Lu HepPar1
166 Er ST6GAL1
159 Tb CD68
150 Nd CK19
143 Nd CD31

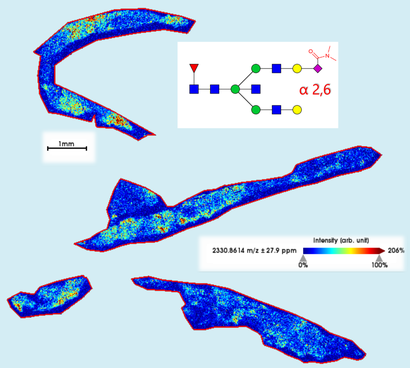
4/4 Fibrosis Score 1/4

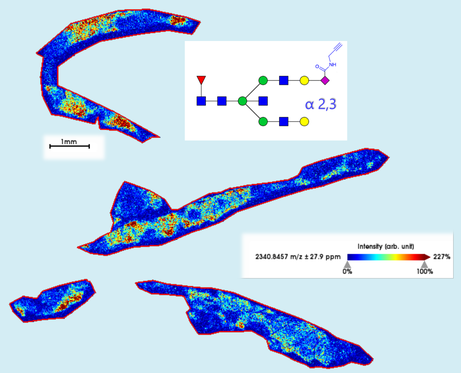


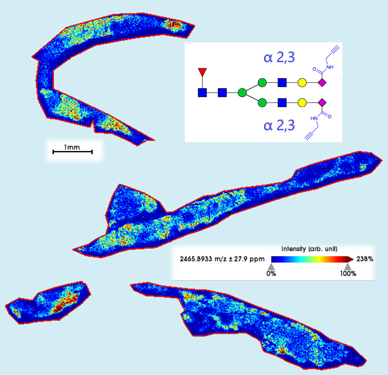
191 Ir DNA
173 Yb CD45RO
169 Tm Collagen
168 Er Ki67
167 Er Granzyme
154 Sm CD38











Scan Me!

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