ROLE OF SIALIC ACID AND GLYCOSYLATIONS AS BIOMARKERS FOR SEVERITY STRATIFICATION IN POST-VIRAL INFECTION SYNDROME

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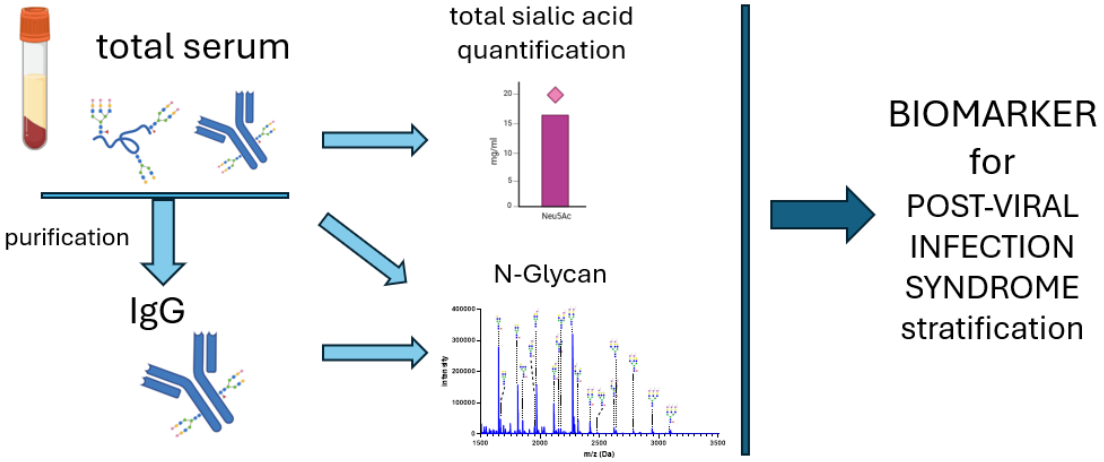
Our group focuses on the study of sialic acid and sialylated glycans in inflammatory diseases. In this work, we aim to find better biomarkers for severity stratification in post-viral syndrome using a glycomics approach [1]. Glycomics is the communication language of organisms, based on a sugar code (glycans) imprinted on tissues, proteins, and lipids. Many diseases, such as autoimmune disorders and pathogenic infections, has an alterered sugar code in the organism, leading to inflammation.



N-glycome was characterized in serum and purified IgG by MALDI mass spectrometry in positive mode after purification and derivatization with methylamine [2]. After labelling with DMBA, total sialic acid content was quantified by HPLC-RP-FL.
We observed variations in N-glycome and sialic acid concentration between patients and controls, suggesting the involvement of sialic acid in the severity of post-viral fatigue syndrome.

References:

1. Rohrhofer, J., et al., *Immunological Patient Stratification in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome.* Journal of Clinical Medicine, **2024**. 13(1): p. 275.
2. Ret, D., et al., *DMTMM-mediated methylamidation for MALDI mass spectrometry analysis of N-glycans with structurally conserved sialic acid residues in biological fluids "via direttissima".* Talanta, **2022**. 242: p. 123326.