Title of the project

Characterization of Cellular Phenotypes and HbA1c levels in Type-2 Diabetics from India

Category (translational/bioengineering/biodesign): Translational

Investigators (IISc and clinical institutions)

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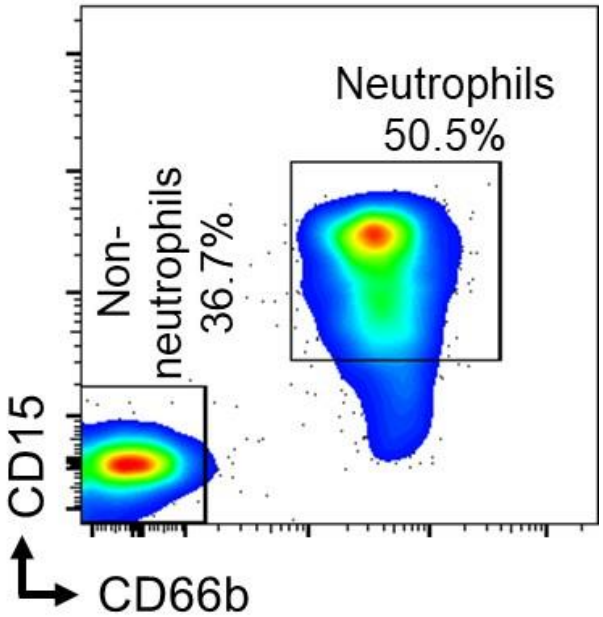
Statement of research

Inflammation is an integral part of diabetes, however, the link between the two remains poorly characterized. Previous research in Caucasian populations has shown that obesity causes inflammation leading to diabetes, but such a link has not been confirmed in the Indian population and questions about non-obese diabetics remain. To specifically address this gap in knowledge, we are interested in studying the independent effects of obesity and hyperglycemia on innate immune cell activation. Through this study, we aim to characterize innate immune cells in obese and non-obese diabetics as well as test the efficacy of a flow cytometry assay that measures HbA1c levels in individual red blood cells as a surrogate for recording daily values of blood glucose levels.



Representative flow cytometry plot identifying the neutrophil and non-neutrophil populations from peripheral blood of healthy volunteers.