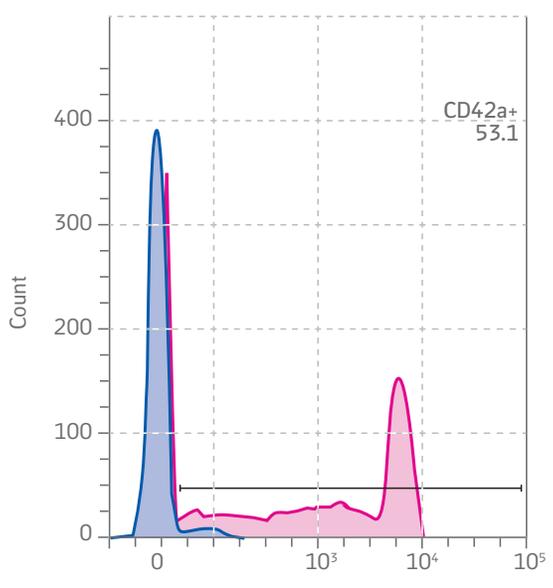
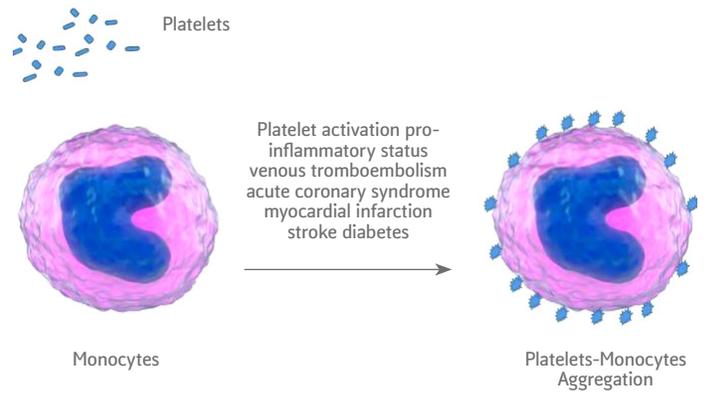


HIGHLIGHTED PLATELET FUNCTION ASSAY

Platelet - Leukocyte Aggregate

Increasing evidence implicates platelets as key cellular mediators of inflammation and vascular disease. Platelets express and secrete a variety of molecules and inflammatory mediators, such as platelet factor 4, P-selectin, CD40L, vWF, CD63, thrombospondins, MMPs, polyphosphates, ADP, thromboxane, nitric oxide, IL-1 β and GPIIb. Many of these mediators promote recruitment of leukocytes to sites of endothelial damage or tissue inflammation and this pathway likely contributes to pathogenesis of inflammatory and cardiovascular diseases, such as atherosclerosis, diabetes, and rheumatoid arthritis.

Targeting these pathways represents a potentially important therapeutic opportunity to ameliorate cardiovascular and inflammatory associated diseases. Thus, evaluating platelet-leukocyte aggregates in circulating blood can provide an early, non-invasive marker for potential therapeutic benefit, or to rule out the onset of cardiovascular and inflammatory disease.



Whole blood treated with saline (blue) or agonist (pink), labeled with fluorescent antibodies, and analyzed by flow cytometry to generate histograms indicating platelet-leukocyte aggregates.

Platelet - Leukocyte Aggregation (PLA) is a sensitive marker for *in vivo* inflammation and platelet activation, and can be elevated in a variety of disease states.

Anticoagulated whole blood, collected from study subjects or healthy donors, is incubated with or without relevant agonists to promote PLA formation. This approach indicates basal levels of *in vivo* inflammation or platelet activation, as well as the potential for PLA formation following *in vitro* stimulation. Following stimulation, the blood sample is labeled with an antibody cocktail specific for platelets and the leukocyte of interest, such as monocytes. The red blood cells are then lysed, and the final sample is analyzed by multi-color flow cytometry to determine the percent of leukocytes that have platelets bound to them.

At MLM Medical Labs, our expertise in specialty hematology testing will complement your drug discovery, preclinical, and clinical pursuits. Our highly trained team will work with you to identify, customize, and carry out the testing needed to expedite your project to its next milestone.