IMMATURE PLATELET FRACTION (IPF)

Measurement of Thrombopoietic Activity
XN-Series™/XE-5000™
IMMATURE PLATELET FRACTION (IPF)

A Unique Parameter to Assist the Physician in the Differential Diagnosis of Thrombocytopenia

Immature platelet fraction is a direct cellular indicator of thrombopoietic activity that may aid clinicians in assessing and monitoring thrombocytopenias.

In newly diagnosed thrombocytopenic patients, or patients that have thrombocytopenia secondary to disease or drug therapy, it is crucial for a clinician to understand the underlying mechanism of that thrombocytopenia low platelet count. Is it a bone marrow production disorder, or is it a destructive or consumptive condition, such as in immune thrombocytopenic purpura (ITP)? Immature Platelet Fraction may provide the clinician with additional information to determine a plan of care based upon underlying disease state.

Immature platelets or reticulated platelets can be analyzed using complicated traditional flow cytometric methods. Now, advances in the analytical capabilities of the Sysmex hematology analyzers, make it possible to obtain similar data with the IPF as part of the Complete Blood Count (CBC).
Sysmex IPF Parameter Utilizes Fluorescent Flow Cytometry to identify and isolate the immature platelets from the mature platelets.

Proprietary polymethine and oxazine fluorescent dyes are used to penetrate the cell membrane, staining the RNA and DNA in the cell. Forward scattered light (cell volume) and fluorescent intensity (RNA and DNA content) are measured. Immature platelets have increased volume and a higher fluorescent intensity compared to mature platelets. The immature platelet fraction (IPF) is expressed as a proportional value of the total fluorescent platelet count.

**Immature Platelet Fraction (IPF):**

- Automated, easy to perform, standardized results
- Inexpensive - utilizes routine CBC reagents and controls
- Results available 24/7 for rapid response to clinicians
- Could reduce time and cost of diagnosis of thrombocytopenia by the clinician
- May provide useful information for tailoring treatment regimens by allowing clinicians to link treatment options to mechanisms of low cell counts
- Provides the clinician with valuable information in the assessment of the mechanism of newly discovered thrombocytopenias and secondary thrombocytopenias (HIV, Hepatitis C, drugs, etc.)
- Following stem cell transplantation, IPF recovered significantly earlier than platelet count, absolute neutrophil count (ANC), and immature reticulocyte fraction (IRF). A persistently low IPF in this clinical setting would suggest failure of bone marrow recovery

Front image: Scattergram showing IPF cluster on an XN-Series analyzer.
BEYOND A BETTER BOX™

Sysmex has a decades-long legacy of developing better analyzers. Today, we’ve moved well beyond “building better boxes” to create a more holistic, intuitive ecosystem that improves lab operations, promotes better care and enhances patient management practices.

Go Beyond a Better Box™ at WWW.SYSMEX.COM/BEYOND to see how Sysmex improves hematology and your entire lab.