

Supporting the apheresis ward with excellent lab service

- ✓ Excellent correlation with CD34
- ✓ Simple and fast procedure without pre-analytical steps
- ✓ Results can be provided 24/7
- ✓ Standardised results

A fast method to monitor stem cell mobilisation directly available from the routine haematology analyser

The haematopoietic progenitor cell count (HPC) has been shown to be comparable with the CD34 immune flow cytometry count in mobilised peripheral blood.



Determine the time point to start apheresis with confidence

It is a matter of time: If you have a method where the information as to whether someone can or can't donate is available after only a couple of minutes, everyone involved saves time and the process is prompt and seamless.



Your benefits in daily routine

- Now anyone in your lab can do a haematopoietic progenitor cell count at any time: Automated enumeration on the haematology analyser – simple, quick and reliable.
- Rely on accurate results: Clear differentiation of cells according to their membrane lipid composition in the WPC channel using fluorescence flow cytometry.
- Relieve your staff in the lab and colleagues on the ward: The result is available within a few minutes – and there is no need for manual gating, pre-treatment or sample washing, which increases consistency.
- Support process optimisation: Easy to run multiple analyses of a patient – 190 µL blood is sufficient for testing.
- Save time and costs in your lab: Using HPC analysis helps to reduce CD34 counts to the required minimum.

HAEMATO-
POIETIC
PROGENITOR
CELLS

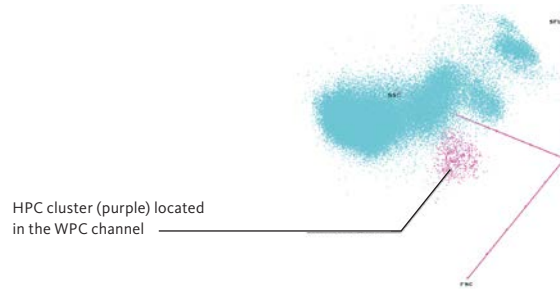
Know more.
Decide with confidence.
Act faster.

WPC

Diagnostic parameters

HPC# – total count of haematopoietic progenitor cells
 HPC% – percentage of haematopoietic progenitor cells related to the total WBC count
 (Only available with the HPC licence)

Technology



Fluorescence flow cytometry and WPC channel reagent system

The WPC channel, with its unique combination of reagents, detects abnormal membrane composition and nuclear content. The lipid membrane composition of immature cells is different from that of mature cells or abnormal blasts. This allows to separate stem cells from other cell populations.

First, the lysis reagent perforates the cells' membranes, whereby the extent of the membrane damage depends on the type and state of the cell (e. g. activation status, maturity level). Next, a fluorescence marker labels the DNA in the cell. The intensity of labelling depends on the degree of membrane perforation and the accessibility of the chromatin (in stem cells the chromatin is relatively dense and only slightly accessible to the fluorescence marker). The stem cell population is characterised by a relatively large size (high FSC), low intracellular complexity (low SSC) and low DNA labelling (low SFL).

Measurement mode

In the HPC mode, 190 µL of blood is aspirated. HPC are counted four times, and the mean value of these four measurements is reported, which ensures the count is particularly accurate and reliable.

Impact on apheresis workflow Apheresis start point

The HPC mode offers a fast, simple and reliable method on a routine haematology analyser to count haematopoietic progenitor cells with an excellent correlation with CD34 counts. This is used to assess the efficiency of stem cell mobilisation and determine the starting point for collection.

In autologous transplantations, a CD34 count is performed three times on average from the mobilised blood of a patient. Using the HPC mode can reduce the number of necessary CD34 analyses to one test per patient, thereby offering the potential of significantly reducing costs and time.

Sysmex's haematology analysers offer a holistic approach for infection, thrombocytopenia and engraftment monitoring with advanced clinical parameters throughout patients' entire haematopoietic stem cell transplantation. Dedicated information is available on other information cards: please contact your Sysmex representative.

For references to independent publications, please visit www.sysmex-europe.com/academy/library/publications or contact your local Sysmex representative.

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