

# HemoFLUOR™-96 PCA<sup>EQ</sup>

## Fluorescence, Methylcellulose-Free CFU-Equivalent Hematopoietic Cell Proliferation and Viability Assays

HemoFLUOR™-96 PCA<sup>EQ</sup> hematopoietic stem and progenitor cell assay kits for cellular therapy remove all subjectivity and high variation typical of methylcellulose CFU assays.

High Quality, Superior Performance produce  
**BETTER RESULTS --> BETTER SCIENCE**

### Advantages of Using HemoFLUOR™-96 PCA<sup>EQ</sup> in the Stem Cell Processing Laboratory

- Replaces the traditional CFU assay with a non-subjective, instrument-based, quantitative assay that does not require tedious and inaccurate colony counting.
- Incorporates growth factor cocktails similar to MethoCult™ reagents.
- Easy to learn (2 days), fast to use and more cost-effective than any CFU assay.
- Uses high-performance, HemoGro™ serum-free Suspension Expansion Culture™ (SEC™) technology in 96-well plates for fast and low-error setup.
- Detects protease activity only in living cells. Fluorescence produced only when a GF-AFC substrate is cleaved by protease activity to produce a fluorescence signal proportional to the number of living cells.
- Uses a fluorescence or multimode plate reader to measure fluorescence with an excitation filter of 380-400nm and an emission filter of 505nm.
- Rapid 5 day assay turnaround. Can be extended to 7 days for increased sensitivity and to accommodate work schedules.
- Results after cell culture available within 2 hours.
- Full assay plate readout time, 5 min. or less.
- Always reliable and reproducible, with low coefficients of variation (CVs).
- FDA, AABB or FACT alternative “quality” assay.
- Results can be uploaded to the NMDP EmTrax cord blood inventory.

### HemoFLUOR™-96 PCA<sup>EQ</sup> Assay Principle

- Choose the appropriate HemoFLUOR™-96 PCA<sup>EQ</sup> assay kit that corresponds to the MethoCult® reagent you have been using (see next page).
- Prepare mononuclear cell (MNC) suspension from umbilical cord blood, mobilized peripheral blood bone marrow or purified, “enriched” cells (e.g. CD34<sup>+</sup>, CD133<sup>+</sup>). **Note:** Total nucleated cells (TNC) can be used, but severely underestimates the result due to other cell impurities in the cell suspension.
- Setup the *in vitro* HemoFLUOR™ Culture Master Mix with the assay kit reagents provided using a single cell dose (usually 5,000 cells/well (0.1mL).
- Process the sample plate by adding the 0.1 mL of the GF-AFC Enumeration Reagent to each well, mix, incubating the plate for 2 hours and read the results in a fluorescence plate reader.
- The viability and amount of proliferation and therefore cell growth is a function of the fluorescence intensity.
- If comparing or verifying HemoFLUOR™-96 PCA<sup>EQ</sup> with the traditional CFU assay, plot total colony counts against the relative fluorescence units (RFU) to demonstrate a correlation between CFU and HemoFLUOR™-96 PCA<sup>EQ</sup> for several samples.



Assays You Can Trust  
Innovative Expertise You Can Count On

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## HemoFLUOR™-96 PCA<sup>EQ</sup> Assay Kit Ordering Information

(Each HemoFLUOR™-96 PCA<sup>EQ</sup> assay kit allows 24 samples to be tested at 4 replicates/sample or can be user defined)

HemoFLUOR™-96 PCA <sup>EQ</sup>	MethoCult™ CFU Equivalent	Growth Factor Cocktail
K5-PCA1-1	H4434 "Classic"	EPO, GM-CSF, IL-3, SCF
K5-PCA2-1	H4034 "Optimum"	EPO, GM-CSF, G-CSF, IL-3, SCF
K5-PCA3-1	H4534 "Classic"	GM-CSF, IL-3, SCF
K5-PCA4-1	H4035 "Optimum"	GM-CSF, G-CSF, IL-2, SCF
K5-PCA5-1#	H4435 "Enriched"	EPO, GM-CSF, G-CSF, IL-3, IL-6, SCF + TPO#

# denotes that these kits include thrombopoietin (TPO) that is not included in the equivalent MethoCult® reagent to allow megakaryocyte growth.

**A fluorescence plate reader or multimode reader is required with a 380-400nm excitation and a 505nm emission filter.**

### HemoFLUOR™-96 PCA<sup>EQ</sup> is used for:

- Mobilized peripheral blood.
- Umbilical cord blood
- Bone marrow
- Purified cells (e.g. CD34<sup>+</sup>) from the above tissues

### All Assay Kits Contain:

- PCA<sup>EQ</sup> Master Mix in serum-free low serum or HemoGro™ formulations
- Fluorescence GF-AFC Enumeration Reagent
- Sterile, 96-well plate
- Sterile, adhesive foil covers
- Assay manual

## Other HemoGenix® Products Designed for Cellular Therapy

- **HemoGro™**: Serum-free and low serum media for all hematopoietic cell procedures.
- **ColonyGro™**: Traditional methylcellulose CFU assay reagents.
- **CAMEO™-4**: Miniaturized methylcellulose CFU assay complete with culture plates.
- **CellExpand™**: Ready to use, stem and progenitor cell expansion Master Mixes.
- **STEMpredict™**: The most rapid stem cell functionality and viability assay available to determine cord blood bankability.
- **HALO®-96 SPC-QC**: Stem cell quality assays for hematopoietic cellular therapy product processing.
- **HALO®-Potency**: A potency, quality and release assay for hematopoietic stem cell therapeutic products.
- **HALO®-96 TE, HemoFLUOR™-96 TE or HemoLIGHT™-96 TE**: Time to RBC, neutrophil and/or platelet engraftment assays.
- **HALO®-96 PMT, HemoFLUOR™-96 PMT, HemoLIGHT™-96 PMT**: To determine "global" hematopoietic and lympho-hematopoietic reconstitution.
- **ImmunoGlo™-96, ImmunoFluor™-96 or ImmunoLight™-96**: Lymphocyte proliferation assays.
- **ImmunoGlo™-MLC, ImmunoFluor™-MLC or ImmunoLight™-MLC**: Mixed Lymphocyte Culture/Reaction (MLC/MLR) assays.



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