HemoFLUOR™-96 Research

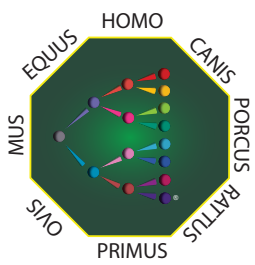
Fluorescence Proliferation and Viability Assays for Hematopoietic Stem and Progenitor Cells

Advantages of Using HemoFLUOR™-96 Research

- HemoFLUOR™-96 Research measures proliferation ability or potential of hematopoietic cells and therefore complements and correlates with methylcellulose colony-forming differentiation assays.
- Instrument-based cell proliferation and viability assays requiring no colony counting.
- Incorporates low serum or serum-free Suspension Expansion Culture™ (SEC™) Technology that allows the proliferation of rare hematopoietic cell populations to be detected in just 4-5 days for animal cells and 5-7 days for human cells.
- Non-subjective readout , that detects live 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.
- Single addition reagent that allows the signal to be measured between 30 minutes and 3 hours of incubation.
- Uses a plate fluorometer or multimode plate reader to measure fluorescence with an excitation filter of 380-400nm and an emission filter of 505nm.
- HemoFLUOR™-96 Research assay kits are available for up to 6 stem cell and 7 progenitor cell hematopoietic populations derived from human, non-human primate, horse, sheep, pig, dog, rat or mouse tissues.
- Multiplexes with flow cytometry protocols using other fluorescent labels, e.g. FITC, PE, PECy5, PerCP-Cy5, PE-Cy7 etc., as well as bioluminescence assays.
- HemoFLUOR™-96 Research stem and progenitor cell culture reagents for human cells are available with low serum or high performance serum-free HemoGro™ Medium.
- Assay kits include everything needed to culture and measure hematopoietic cell proliferation (see next page). Just provide the cells.
- Easy to learn (1 day) and fast to use providing up to 24 samples/96-well plate assay kit. (Number of samples depends on number of replicate wells used. Unused wells will remain sterile for later experiments).

HemoFLUOR™-96 Research Applications

- Measure hematopoietic stem and progenitor cell proliferation.
- Determine the number of viable cells in proliferation.
- Compare hematopoietic cell populations from different species.
- Replaces hematopoietic colony-forming cell (CFC) assay applications.
- Experimental transplantation models.
- Effects of growth factors/cytokines.
- *In vivo* to *in vitro* assays.
- Gene targeting assays.



HemoFLUOR™-96 Research

Cell Populations Detected with HemoFLUOR™-96 Research

Population	Colony Types Detected	Growth Factors Included
Base Master Mix	The flexibility to detect any hematopoietic cell population	No growth factors (can be added or used as control)
HPP-SP 1	Primitive, quiescent lympho-hematopoietic stem cell	IL-3, IL-6, SCF, TPO, Flt3-L
HPP-SP 2	Primitive, expanding lympho-hematopoietic stem cell. All cells below.	EPO, GM-CSF, IL-2, IL-3, IL6, IL7, SCF, TPO, Flt3-L
CFC-GEMM 1	All stem cells below + B, E, G & M, Mk	EPO, GM-CSF, IL-3, IL6, SCF, TPO, Flt3-L
CFC-GEMM 2	All stem cells below + B, E, G & M, Mk	EPO, GM-CSF, IL-3, IL6, SCF, TPO
CFC-GEM 1	GEM2 & 3 + B, E, G & M (no Mk)	EPO, GM-CSF, IL-3, IL-6, SCF
CFC-GEM 2	GEM3, B, E, G & M (no Mk)	EPO, GM-CSF, IL-3, SCF
BFU-E 1	BFU-E & CFU-E	EPO, IL-3, SCF
BFU-E 2	BFU-E & CFU-E	EPO (high dose)
GM-CFC 1	G & M	GM-CSF, IL-3, SCF
GM-CSF 3	G & M	GM-CSF
Mk-CFC 1	Mk	TPO, IL-3, SCF
B-CFC	B-lymphocyte progenitors	IL-7
T-CFC	T-lymphocyte progenitors	IL-2 (needs addition of mitogen or co-stimulator)

B = erythropoietic progenitor. G = granulocyte. M = macrophage. Mk = megakaryocyte.

HemoFLUOR™-96 Research Kit Contents:

- HemoFLUOR™ Master Mix: Choose between low serum or serum-free, HemoGro™ high performance culture grow media.
- GF-AFC Reagent
- Sterile, 96-well plate
- Sterile, adhesive foil covers
- Instruction manual

High Quality, High Performance

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www.hemogenix.com | Tel: 719-264-6250 | Fax: 719-264-6253 | info@hemogenix.com