Complete Assays Systems for Hematopoietic Cells

Smart, Quantitative, Accurate, Reliable and Fast - The Hallmarks of High Performance Assays

HALO®-96 Research

- Measures changes in intracellular ATP concentration that are proportional to cell viability and proliferation.
- Incorporates a luciferin-luciferase readout.
- Measure luminescence.
- Requires a luminescence plate or multimode reader.
- Assay standardized with ATP standards and controls.
- Time to obtain results after culture: 30 minutes.
- Sensitivity: 10-100 times greater than fluorescence.

HALO®-Real Time

- Measures the reducing potential of cell metabolism that is directly proportional to viability and cell proliferation.
- Incorporates a NanoLuc® luciferase.
- Endpoint is a luminescence readout.
- Requires a luminescence plate or multimode reader.
- Non-lytic (non-desructive) reagent that can be added at the beginning of cell culture to measure luminescence at any time over a 2-3 day period.
- Allows growth kinetics of stem and progenitor cells to be determined.
- Can be directly multiplexed with other readouts, e.g. flow cytometry

HemoFLUOR™-96 Research

- Measures a protease in live cells, which provides a marker for viability and proliferation.
- Uses a fluorescence substrate that enters the cells and is cleaved by protease activity.
- The fluorescent signal is proportional to the number of cells.
- Requires a fluorescence plate reader with an excitation filter at 380-400nm and an emission filter at 505nm.
- The non-lytic reagent allows the addition of fluorochrome-conjugated antibodies to determined different cell populations by flow cytometry.
- Time to obtain results after culture: 1-3 hours.
- Sensitivity: 10-100 time greater than absorbance.

HemoLIGHT™-96 Research

- Measures the reduction of a MTS tetrazolium substate by the mitochondria and is therefore a merker for cell viability and proliferation.
- Uses an absorbance/ colorimetric signal to measure a soluble, formazan product.
- Single-step reagent addition. Unnecessary to solubilize formazan produce as in a MTT assay.
- Requires an absorbance plate or multimode reader with a 490nm filter.
- Time to obtain results after cell culture: 1-4 hours

Uses of Instrument-Based Assay Systems

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

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

Complete Assays Systems for Hematopoietic Cells

Cell Populations Detected with All Assays

Population Desgnation	Equivalent CFC Population	Species	Formulation	Growth Factors Cocktails
Any	Methylcellulose with no growth factors	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	No growth factors (can be added or used as control)
SC-HPPX	No equivalent	H, Pr, M	SF (H, Pr, M)	IL-3, IL-6, SCF, Flt3-L
SC-HPPXT	No equivalent	H, Pr, M	SF (H, Pr, M)	IL-3, IL-6, SCF, Flt3-L, CD3, CD38
SC-HPP	HPP-SP 1	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	IL-3, IL-6, SCF, TPO, Flt3-L
SC-HPP 1T	No equivalent	H, Pr, M	SF (H, Pr, M)	IL-2, IL-6, SCF, TPO, Flt3-L, IL-2, CD3, CD28
SC-HPP 2	HPP-SP 2	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	EPO, GM-CSF, IL-2, IL-3, IL6, IL7, SCF, TPO, Flt3-L
SC-GEMM 1	CFC-GEMM 1	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	EPO, GM-CSF, IL-3, IL6, SCF, TPO, Flt3-L
SC-GEMM 2	CFC-GEMM 2	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	EPO, GM-CSF, IL-3, IL6, SCF, TPO
SC-GEM 1	CFC-GEM 1	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	EPO, GM-CSF, IL-3, IL-6, SCF
SC-GEM 2	CFC-GEM 2	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	EPO, GM-CSF, IL-3, SCF
P-BFU 1	BFU-E 1	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	EPO, IL-3, SCF
P-BFU 2	BFU-E 2	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	EPO (high dose)
P-GM 1	GM-CFC 1	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	GM-CSF, IL-3, SCF
P-GM 3	GM-CSF 3	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	GM-CSF
P-Mk 1	Mk-CFC 1	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	TPO, IL-3, SCF
P-Bcell	B-CFC	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	IL-7
P-Tcell	T-CFC	H, Pr, E, O, P, C, R, M	LS and SF (H, Pr, M)	IL-2 (needs co-stimulators)

B = erythropoietic progenitor. G = granulocyte. M = macrophage. Mk = megakaryocyte.
H=human; Pr=primate; E=horse; O=sheep; P=pig; C=dog; R =rat; M=mouse
LS = low serum formulation; SF = serum-free formulation, but only for human, primate and mouse cells.

Assay Kit Contents & Common Characteristics

- All contain Culture Master Mixes for any of the populations above.
- All contain signal detection reagent.
- All contain sterile 96-well plates for cell culture
- All contain sterile, adhesive foils to maintain sterility of unused wells.
- All contain HemoGro™ medium for cell suspension dilution.
- Base medium, ATP standards and controls included for all HALO® assays.
- Only 1 day or less to learn how to use the assay.
- Cell proliferation measured after 4 days for animal cells and 5 days for human cells.
- Perform as many replicate wells as required.
- Instrument readout of all 96-well takes less than 5 minutes.

HemoGenix®
Changing the Paradigm

Assays You Can Trust
Innovative Expertise You Can Count On

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