

CytoSelect 96-Well Hematopoietic Colony Forming Cell Assay Assay Kit

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CATALOG #
AAA44616

PRODUCT SYNONYMS

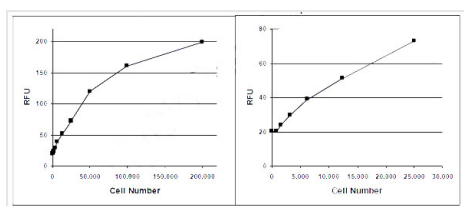
CytoSelect 96-Well Hematopoietic Colony Forming Cell Assay; CytoSelect 96-Well Hematopoietic Colony Forming Cell Assay assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Store the CytoSelect Methylcellulose Medium at -20 degree C. If the methylcellulose medium will not be used all at once, it should be aliquoted to avoid multiple freeze/thaw cycles. Store all other components at 4 degree C until their expiration dates.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for CytoSelect 96-Well Hematopoietic Colony Forming Cell Assay assay kit

Background: Hematopoietic stem cells (HSC) are well-characterized, tissue-specific stem cells that exhibit remarkable self-renewal capacity and are responsible for the life-long maintenance of the hematopoietic system. HSC are rare cells that reside in adult bone marrow where hematopoiesis is continuously taking place, but can also be found in cord blood, fetal liver, adult spleen and peripheral blood. Throughout the life span, hematopoiesis continuously replenishes the various lymphoid, myeloid and erythroid-megakaryocyte lineages, but also to maintain a small pool of HSC with the self-renewal capacity that is capable of carrying on hematopoiesis. From HSC to mature blood cells, extensive proliferation and expansion occurs that results in the production of millions of blood cells. When cultured in a suitable semi-solid matrix, such as methylcellulose supplemented with nutrients and cytokines, HSC or hematopoietic progenitors called colony-forming cells (CFCs) proliferate to form discrete cell clusters or colonies. Colony types include colony-forming unit-erythroid (CFU-E), burst-forming unit-erythroid (BFU-E), CFU-granulocyte, macrophage (CFU-GM) and CFU-granulocyte, erythrocyte, macrophage, megakaryocyte (CFU-GEMM). In classical CFC assays, culture usually takes place in a 35 mm dish for 14-21 days for the colonies to reach certain size (> 40 cells/colony) for manual counting. The CFCs are classified and manually enumerated based on the morphological recognition of one or more types of hematopoietic lineage cells within the colony. CytoSelect™ 96-well Hematopoietic Colony Forming Cell Assay does not involve subjective manual counting of colonies or require a 2-3 week incubation period. Instead cells are incubated only 7-10 days in a semisolid methylcellulose media before being solubilized, lysed and detected by the patented CyQuant GR Dye in a fluorescence plate reader (see Assay Principle below). Alternatively, viable CFCs can be easily recovered for further culturing and testing. This format provides a quantitative, high-throughput method to accurately measure HSC or hematopoietic progenitor clonogenic capability.

Product Categories/Family for CytoSelect 96-Well Hematopoietic Colony Forming Cell Assay assay kit

[Stem Cell Research](#); [Hematopoietic CFC Assays](#)

References

1. Ogawa, M. (1993) Blood 81:2844.
2. Peters C, Steward CG (2003) Bone Marrow Transplant 31:229-239.
3. Weissman, I.L. (2000) Science 287:1442.
4. Ogawa, M. et al. (2002) Hematopoietic Stem Cell Protocol. Methods in Molecular Medicine. Humana Pres. p. 113.
1. Chiba, H. et al. (2013). Diabetes impairs the interactions between long-term hematopoietic stem cells and osteopontin-positive cells in the endosteal niche of mouse bone marrow. Am J Physiol Cell Physiol. 305:C693-C703.
2. Neri, P. et al. (2011). Bortezomib-induced "BRCAness" sensitizes multiple myeloma cells to PARP inhibitors. Blood 118:6368-6379.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://stage.aaabiotech.com/assay-kits/cytoselect-96-well-hematopoietic-colony-forming-cell-assay/44616>