Product Specification Sheet

Product Name Stemgent® Alkaline Phosphatase Staining Kit II

Description The undifferentiated state of embryonic stem (ES) and induced pluripotent stem (iPS) cells can be characterized by a high level of alkaline phosphatase (AP) expression which, along with the expression of other surface markers, indicates undifferentiated cells with the potential to self-renew. AP is a hydrolase enzyme responsible for dephosphorylating molecules such as nucleotides, proteins, and alkaloids under alkaline conditions. When fixed ES or iPS cells are stained using the AP Staining Kit, undifferentiated cells appear red or purple, whereas differentiated cells appear colorless.

Catalog Number AMS.00-0055

Size 50 assays

Kit Components Fix Solution: 25 ml (Cat. No. 09-0042)
AP Staining Solution A: 10 ml (Cat. No. 09-0043)
AP Staining Solution B: 10 ml (Cat. No. 09-0065)
AP Staining Solution C: 10 ml (Cat. No. 09-0066)

Storage and Stability Store at 4°C. Do not freeze. Stable for 6 months from date of receipt when stored as directed.

Quality Control The AP Staining Kit II is functionally tested on human and mouse ES cells to ensure product quality (**Figure 1**).

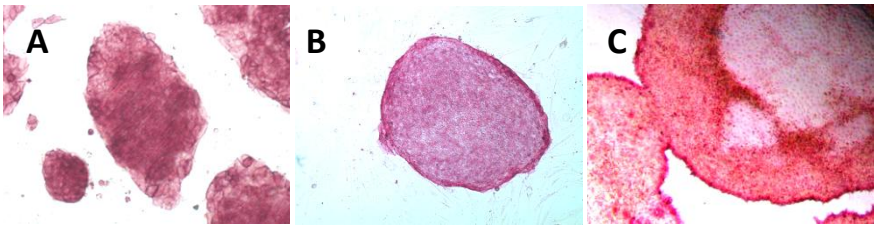

Figure 1. Phenotypic assessment of R1 mouse ES cells and H1 human ES cells using AP staining. Cells were fixed and stained following the AP Staining Kit protocol. [A] Undifferentiated R1 cells, [B] undifferentiated H1 cells, and [C] partially differentiated H1 cells.

References

1. Pease, S., Braghetta, P., Gearing, D., Grail, D., and Williams, R.L. (1990) Isolation of embryonic stem (ES) cells in media supplemented with recombinant leukemia inhibitory factor (LIF). Dev. Biol. 141: 344-352.
2. Smith, A.G., Nichols, J., Robertson, M., and Rathjen, P.D. (1992) Differentiation inhibiting activity (DIA/LIF) and mouse development. Dev. Biol. 151: 339-351.
3. Takahashi, K., Tanabe, K., Ohnuki, M., Narita, M., Ichisaka, T., Tomoda, K., and Yamanaka, S. (2007) Induction of pluripotent stem cells from adult human fibroblasts by defined factors. Cell 131: 861-872.
4. Yu, J., Vodyanik, M.A., Smuga-Otto, K., Antosiewicz-Bourget, J., Frane, J.L., Tian, S., Nie, J., Jonsdottir, G.A., Ruotti, V., Stewart, R., Slukvin, I.I., and Thomson, J.A. (2007) Induced pluripotent stem cell lines derived from human somatic cells. Science 318: 1917-1920.

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