

(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2003/0235909 A1****Hariri et al.**(43) **Pub. Date: Dec. 25, 2003**(54) **MODULATION OF STEM AND  
PROGENITOR CELL DIFFERENTIATION,  
ASSAYS, AND USES THEREOF****Publication Classification**(51) **Int. Cl.<sup>7</sup>** ..... **C12N 5/08; A61K 31/454**  
(52) **U.S. Cl.** ..... **435/372; 514/323; 435/366**(76) Inventors: **Robert J. Hariri**, Florham Park, NJ  
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San Diego, CA (US); **Kyle W.H. Chan**,  
San Diego, CA (US)(57) **ABSTRACT**

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**NEW YORK, NY 100362711**(21) Appl. No.: **10/411,655**(22) Filed: **Apr. 11, 2003****Related U.S. Application Data**

(60) Provisional application No. 60/372,348, filed on Apr. 12, 2002. Provisional application No. 60/437,348, filed on Dec. 31, 2002. Provisional application No. 60/437,350, filed on Dec. 31, 2002.

The present invention relates to methods of modulating mammalian stem cell and progenitor cell differentiation. The methods of the invention can be employed to regulate and control the differentiation and maturation of mammalian, particularly human stem cells along specific cell and tissue lineages. The methods of the invention relate to the use of certain small organic molecules to modulate the differentiation of stem or progenitor cell populations along specific cell and tissue lineages, and in particular, to the differentiation of embryonic-like stem cells originating from a postpartum placenta or for the differentiation of early progenitor cells to a granulocytic lineage. Finally, the invention relates to the use of such differentiated stem or progenitor cells in transplantation and other medical treatments.

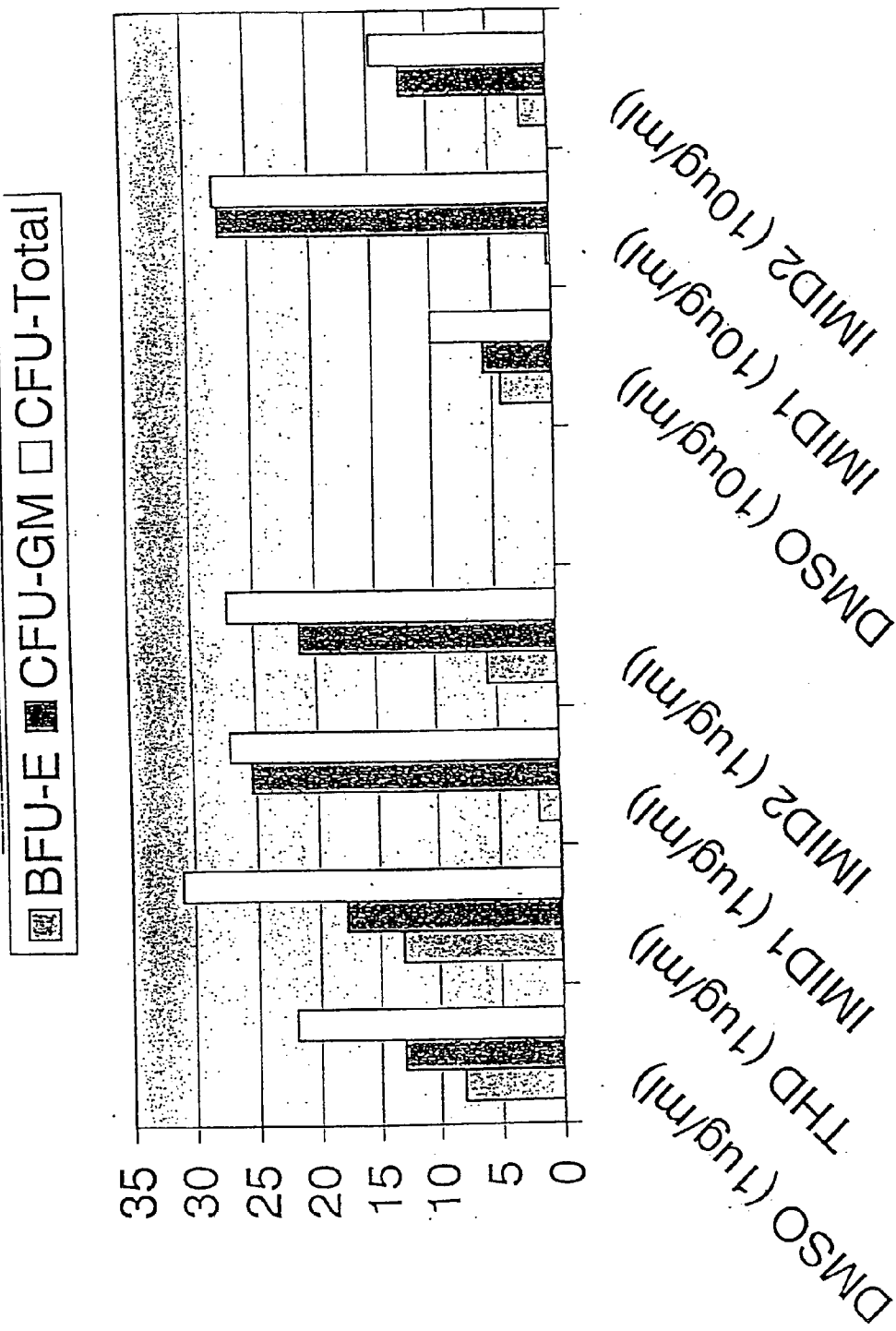


FIG. 1

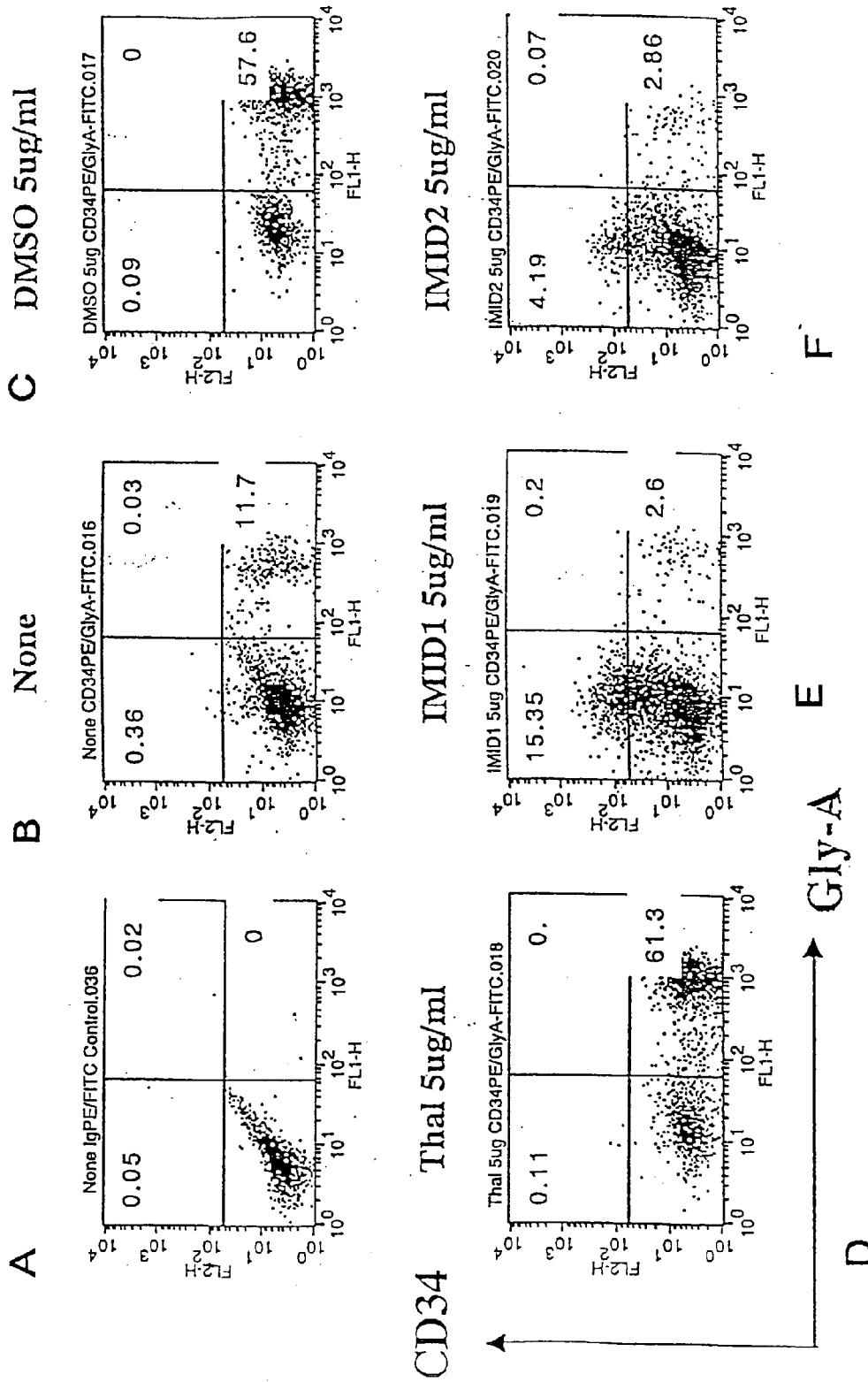


FIG. 2

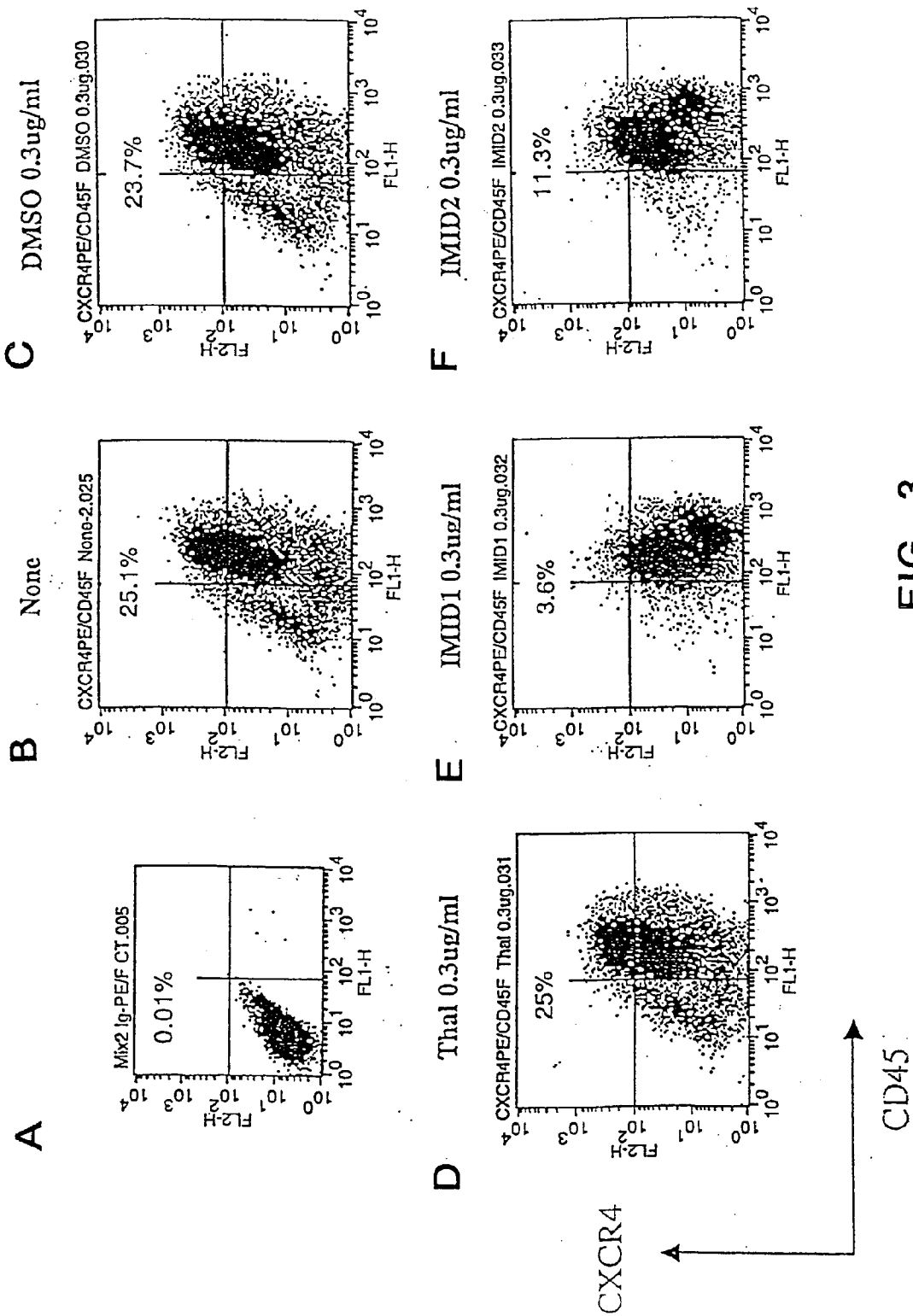


FIG. 3

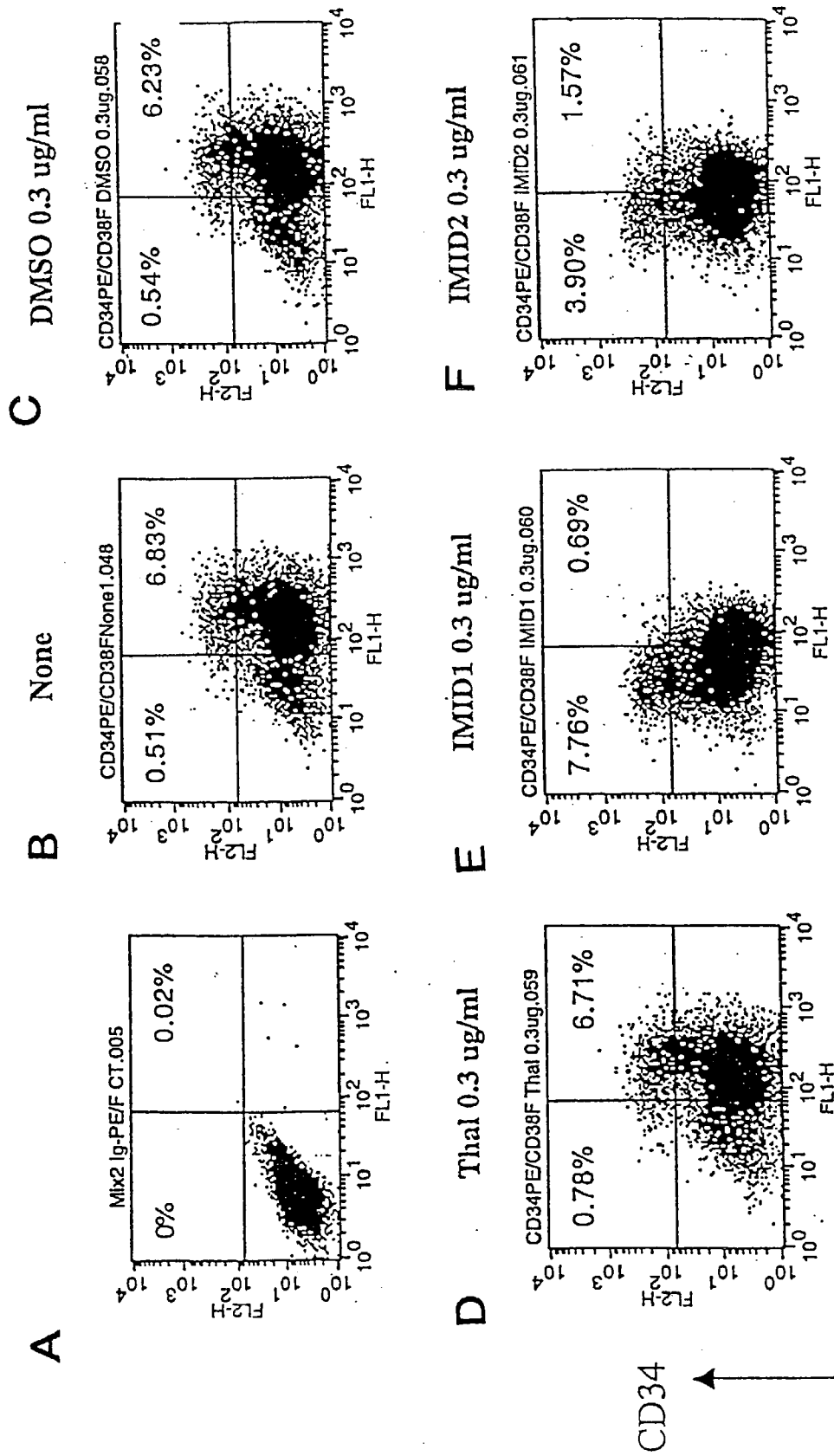


FIG. 4

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