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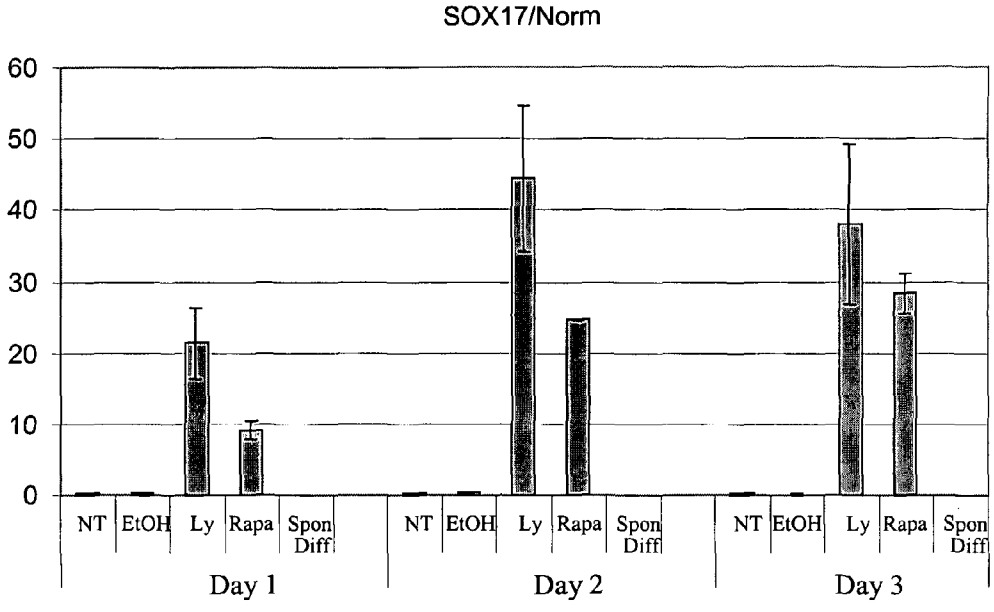
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(54) Title: COMPOSITIONS AND METHODS FOR SELF-RENEWAL AND DIFFERENTIATION IN HUMAN EMBRYONIC STEM CELLS



(57) Abstract: The present invention provides compositions and methods for the production of differentiated mammalian cells. More particularly, the present invention provides cellular differentiation methods employing culturing the cells on a feeder layer or under feeder-free conditions in cell culture and further contacting the cells with an inhibitor of the PI3-kinase pathway and a member of the TGFb family for the generation of differentiated mammalian cells from pluripotent mammalian stem cells. Preferably, the differentiated cell is selected from the group consisting of a mesendodermal cell, a mesodermal cell, and an endodermal cell.

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