Abstract

METHOD FOR PRODUCING ADENOHYPOPHYSIS OR PRECURSOR TISSUE THEREOF

The present invention provides a method for inducing adenohypophysis or precursor tissue thereof in vitro from human pluripotent stem cells. The method includes culturing an aggregate of human pluripotent stem cells in suspension in a medium containing a bone morphogenetic protein signal transduction pathway activating substance and a substance acting on the Shh signal pathway to obtain a human cell aggregate containing a hypothalamus neuroepithelial tissue and a surface ectoderm, and further culturing the obtained human cell aggregate containing the hypothalamus neuroepithelial tissue and the surface ectoderm in suspension in a medium containing a bone morphogenetic protein signal transduction pathway activating substance and a substance acting on the Shh signal pathway to induce formation of hypophysial placode and/or Rathke's pouch in the surface ectoderm, thus obtaining a human cell aggregate containing 1) hypothalamus neuroepithelial tissue, and 2) hypophysial placode and/or Rathke's pouch.

Fig. 1