ABSTRACT

The present invention aims to develop a method of selecting a cardiomyocyte from a cell population derived from a whole heart or a differentiated cell population derived from a stem cell without genetic alteration.

To solve the problem above, the present inventors established an innovative method of selecting a cardiomyocyte using a mitochondria-specific labeling reagent without a genomic alteration on the basis of various kinds of property of the cardiomyocyte. Specifically, the present inventors provide a method of selecting a cardiomyocyte from a cardiomyocyte-containing cell mixture without genetic alteration of a cardiomyocyte, on the basis of a relative content of cellular mitochondria and/or a relative mitochondrial transmembrane potential of the cell; a method of enriching a cardiomyocyte from a cardiomyocyte-containing cell mixture without genetic alteration of a cardiomyocyte; a method of producing a cardiomyocyte without genetic alteration of a cardiomyocyte; and a method of evaluating the ratio of a cardiomyocyte in a cardiomyocyte-containing cell mixture.