ABSTRACT

APPLICATION OF THYROID HORMONES AND ITS ANALOGUES IN PREPARATION OF DRUGS FOR TREATING ALPHA-THALASSEMIA

The present invention provides an application of thyroid hormones and its analogues in preparation of drugs for treating alpha-thalassemia, especially in preparation of drugs for regulating expression of zeta-globin gene. During differentiation of K562 cells, thyroid hormone analogue (Triac) can significantly up-regulate the expression of zeta-globin gene (*HBZ*) by 50 folds or above. The expression of zeta-globin gene (*hbae5*) can also be up-regulated by 30-70 folds in zebrafish treated with thyroid hormones and thyroid hormones analogues. Therefore, according to the present invention, the expression of zeta-globin gene can be significantly activated by thyroid hormones and its analogues, which may develop new potential therapies for patients with alpha-thalassemia. It provides an economical, safe and effective method for treating alpha-thalassemia and can be widely used.

Figure 1