

BIOMARKERS FOR THE DIAGNOSIS OF PEDIATRIC B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA (B-ALL)

Technology for Licensing

Keywords:

Long non-coding RNA, lncRNA, mRNA, pediatric B-cell acute lymphoblastic leukemia, B-ALL, pediatric B-ALL, biomarkers, expression levels, AL133346.1, CCN2

Description:

Pediatric B-cell acute lymphoblastic leukemia (B-ALL) is the most common childhood malignancy that, characterized by its heterogeneity and aggressiveness, requires new targeted therapies. In recent years, this search has focused on the identification of non-coding RNA (ncRNA), crucial regulators of gene expression. Dysregulation of these long ncRNAs (lncRNAs) has been linked to numerous human diseases and is also associated with oncogenic or tumor suppressor phenotypes.

Given the absence of a clinically relevant lncRNA consensus signature for pediatric B-ALL, researchers at the University of Granada have studied the lncRNA profiles of pediatric patients with this lymphoma, thus identifying two new biomarkers for the diagnosis, prognosis, prevention, improvement or alleviation in the treatment of this.

This invention provides the use of lncRNA AL133346.1 and mRNA CCN2 as diagnostic biomarkers, whose method consists in the quantification of their expression levels from an isolated sample of the bone marrow of the individual. In this way, by comparing the amounts expressed of AL133346.1 and CCN2 in this sample with reference amounts, it is possible to obtain useful data for the diagnosis of pediatric B-ALL, facilitating therapeutic decision-making in these patients.

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The present invention highlights the identification of two new biomarkers for the diagnosis of pediatric B-cell acute lymphoblastic leukemia (B-ALL). In this sense, the analysis of the expression of the lncRNA and mRNA pair makes it possible to recognize and evaluate patients who develop the disease. Consequently, its use is support in therapeutic decision-making in patients with B-ALL.

Advantages and Benefits

- » Use of lncRNA and mRNA as diagnostic biomarkers of pediatric B-ALL

The quantification of AL133346.1 and CCN2 expression levels allows the evaluation and identification of those individuals with the disease.

- » Support in the therapeutic strategy of patients with pediatric B-ALL

The use of these biomarkers could be used in therapeutic decision-making for patients with pediatric B-ALL.

- » No specific equipment is required

Quantification of biomarker expression can be carried out using a variety of currently popular techniques, generally common and accessible in laboratories in the field (such as RT-PCR, among others).

- » Simple method

The possibility of using a kit or device makes it easier to obtain useful data for the diagnosis and prognosis of this type of leukemia.

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