عنوان مقاله:

Establishment a CHO Cell Line Expressing Human CD۵۲ Molecule

محل انتشار:

مجله گزارش های بیوشیمی و زیست شناسی مولکولی, دوره 5, شماره 1 (سال: 1395)

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خلاصه مقاله:

Background: CD۵۲ is a small glycoprotein with a GPI anchor at its C-terminus. CD۵۲ is expressed by Normal and malignant T and B lymphocytes and monocytes. There are detectable amounts of soluble CD۵۲ in plasma of patients with CLL and could be used as a tumor marker. Although the biological function of CD۵۲ is unknown but it seems that CD۵۲ may be involved in migration and activation of T-cells .The aim of this study was to clone and express human CD۵۲ gene in CHO cell line and studying its function in more details. Methods: Based on GenBank databases two specific primers were designed for amplification of cd۵۲ gene. Total RNA was extracted from Raji cell line and cDNA synthesized. Amplified fragment was cloned in pBudCE۴.۱ vector. The new construct was transfected to CHO-K۱ cell line using electroporation method. Expression of recombinant CD۵۲ protein was evaluated by Real time PCR and flow cytometry methods. Results: Amplification of CD۵۲ gene using specific primers on Raji cDNA showed a ۲۰۹ bp band. New construct was confirmed by PCR and restriction pattern and sequence analysis. The new construct was designated as pBudKT۱. RT-PCR analysis detected cd۵۲ mRNAs in transfected cells and Flow cytometry Results showed that ۷۸.۴ % of cells represented CD۵۲ in their surfaces. Conclusions: In conclusion, we established a human CD۵۲ positive cell line, CHO-CD۵۲, and the protein was expressed on the membrane. Cloning of the CD۵۲ gene could be the first step for the production of therapeutic monoclonal antibodies and detection systems for soluble CD۵۲ in biological fluids.

کلمات کلیدی:

CD۵۲, Recombinant DNA, Therapeutic and diagnostic proteins