Current Issue
Browse Issues
Search
About this Journal
Instruction to Authors
Online Submission
Subscription
Contact Us
RSS Feed

Acta Medica Iranica
2009;47(4) : 131-137

IL-13 GENE TRANSLATION IS ARRESTED BY A NOVEL OLIGONUCLEOTIDE IN CULTURED HUMAN B-LYMPHOCYTES

Tahere Mousavi, Bruce Mazer

Abstract:

Antisense oligodeoxynucleotides (oligos) are the tools that bind to complemen¬tary sequence of targeted mRNA and block specifically protein translation. In the present study, a novel 20 mer oligo as an antisense for human IL-13 is introduced. This oligo is designed according to the IL-13 mRNA coding region and synthesized in two HPLC purified and FITC conjugated forms. Fluorescence oligo cell uptake is confirmed using flowcytometry and confocal microscopy, and cytotoxicity evaluation is performed us¬ing BrdU proliferation assay. Human tonsilar B-lymphocytes are purified by positive selection using magnetic cell sorting method and cultured with anti CD40 monoclonal antibody plus rIL-4 to induce IL-13 production. IL-13 antisense is added to medium and Real Time PCR for mRNA, and ELISA for protein assays. Data indicate that antisense application leads to down regulation and complete suppression of IL-13 pro¬tein with no significant effects on mRNA, suggesting in vitro protein translation arrest. Since 11-13 is a crucial cytokine in allergic conditions, we conclude that interference with the protein synthesis by a nontoxic and efficient antisense oligo can provide an available tool for the investigators on allergic diseases.

Keywords:

Antisense ، Human IL-13

TUMS ID: 4395

Full Text HTML Full Text PDF 2789 KB

top