



Construction of a novel Human Gamma Interferon vector by fusion of a secretory signal peptide and gene silencing inhibitor

Mohammad Yousefi

Kabul University, Afghanistan

Abstract:

To date, plant-based expression systems is emerging as a great bioreactor and serious challenge as compared with other expression systems for production of recombinant proteins. The human Gamma Interferon has a great role in numerous biological function of different cells such as down regulating generation of IL-4, IL-10, anti-bacteria, anti-virus and anti-organisms of inside the cell. Interestingly, IFN γ has been reported in many medical applications such as treatment of patients with congenital deficiency, infectious agents such as Leishmania, Salmonella and treatment of Cancer, Hepatitis and HIV diseases. In this study, at the first step we cloned the human Gamma Interferon gene in three cloning vectors of pTG19-T, pVUT and pZLP in the Escherichia coli DH5 α , and then it was inserted in the binary vectors of pBI121 and pCAMBIA1304, and consequently the final constructs pBI-IFN γ and pCAMBIA-IFN γ were prepared. Both of the constructs had the signal peptide of "ZERA", isolated from gamma zeins of zein mays. Notably, besides Zera signal peptide, the construct pCAMBIA-IFN γ supplemented also with an inhibitor gene silencing signal so-called "2b", isolated from cucumber mosaic virus as well as modified sequences of 5'UTR and 3'UTR enhancing translation.



Keywords: Gamma Interferon, signal peptide; Vector; Construct

Biography:

Mohammad Yousefi is currently working at Kabul University, Agriculture Faculty, Department of Biotechnology in Afghanistan

Recent Publications:

1. Construction of a novel Human Gamma Interferon vector by fusion of a secretory signal peptide and gene silencing inhibitor.