A recombinant multiepitope protein for human cytomegalovirus diagnosis

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Introduction: The Human Cytomegalovirus (HCMV) is a pathogen that is transmitted through contact with blood, urine, semen, saliva, vaginal secretion, blood transfusions and organ transplanted. The infection caused by the HCMV can cause different consequences, depending on the characteristics of the infected individual. Accurate diagnosis for differentiation of HCMV from others virus is a pivotal importance for proper treatment. **Objective:** To develop a technological input through a single recombinant multiepitopo protein from some epitopes preserved of HCMV. **Material and Methods:** In this work, a recombinant multiepitope protein (rMEHCMV) was developed in order to for HCMV diagnostic. It was possible based on conserved and immunodominant epitopes from, pp28, pp38, pp52, pp65 and pp150. A synthetic gene was designed to encode six epitopes *in tandem* separated by a flexible linker and bearing a his-tag at the C-terminal. The recombinant protein was produced in *Escherichia coli* and purified in a single affinity chromatographic. Purified rMEHCMV was used to perform an ELISA assay **Results and Discussion** Time course induction in E. coli showed an induced protein with an apparent molecular mass of ~24 kDa. The results the ELISA showed that 35ng of protein is enough to sensitize the plate (Greiner) incubated at 4 ° C for 18 hours in a pH 9.5 , the best blocking is 5% skim milk, incubated at 37 ° C for 1 hour. The assays of ELISA was able to recognize IgG human serum. **Conclusions:** The rMEHCMV is a promising alternative for cytomegalovirus diagnosis, with potential for development of an inexpensive diagnostic test with high degree of specificity.

Keywords: Cloning, Multiepitope, Human Cytomegalovirus, Diagnosis.
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