The main objectives for the development of drugs are efficiency and safety. Over the last years, the use of peptides as drugs has been increased. In terms of general safety, peptides have a comparatively small toxicological footprint due to, among others, their extremely high specificity for their target. Several anti-HIV peptides are currently in developing and a peptide has been approved and used since several years. The current HIV treatments require to be periodically administered; consequently, continuous administration regimens must be assessed during drug development in this field. The present work studies the effect of repeated doses of a new drug peptide candidate anti-HIV designated as CIGB-210, in mice C57BL6. A scheme of 15 repeated doses via subcutaneous was evaluated and three doses were assayed: 0.71 mg/Kg, 1.29 mg/Kg and 2.57 mg/Kg. Clinical evaluation related to appearance, behavior and others did not show differences in comparison with the control group. No alterations were observed in histopathology analysis, neither macroscopic nor microscopic. No damage in ex vivo splenocytes proliferation was detected by in vivo CIGB-210 treatment.

Materials and Methods

The evaluation was performed at days 8, 15 and 22. Rodents were sacrificed by cervical dislocation and fresh spleens were perfused in RPMI 1640 medium (supplemented with 10% fetal bovine serum, 50 µg/ml gentamicin). NH4Cl 0.83 % (v/v) was used to lyse erythrocytes. Viability and amount of spleen cells were determined by counting in Neubauer chamber through Trypan blue 0.4 % (m/v).

Proliferation assay

Proliferative response was measured by MTT (3-[4,5-dimethylthiazol-2-yl]-2,5 diphenyltetrazolium bromide) Cell Proliferation Assay. Spleen cells (2,5 x 10^5) were stimulated with Concanaavalin A 1 µg/mL for 72 hours. MTT was added at 0.5 mg/ml and isopropanol was applied to dissolve formazan crystals.

Results

The examined organs were not impaired by the treatment with CIGB-210. CIGB-210 treatment in vivo did not affect the proliferation ex vivo of splenocytes from mice C57BL6. CIGB-210 treatment showed to be safe under conditions of the present study.

References


http://www.cigb.edu.cu
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