

Effectiveness of different routes of administration of pcDNA3.1/His B-MIC3 in eliciting humoral immune response against toxoplasmosis in mice

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Abstract

The intramuscular injection in mice always lead to a great difficulty because of its small size. This study was designed to compare the effectiveness of intramuscular routes and intraperitoneal routes in the delivery of pcDNA3.1/HisB-MIC3 as a DNA vaccine towards toxoplasmosis. In this study two set of mice (A and B), each set were divided into four groups. Group one was injected with sterile distilled water, group two was injected with 50 µg of empty pcDNA3.1/His B, group three was injected with 50 µg of pcDNA3.1/His B-MIC3 and group four was not injected at all. The mice in set A was injected through intramuscular route and mice in set B was injected through intraperitoneal route. The IgG titre was determined using Mouse Toxoplasma IgG ELISA Kit. Both group injected with pcDNA3.1/His B-MIC3 as vaccine showed increase in IgG titre. Mice injected with pcDNA3.1/His B-MIC3 in intramuscularly shows about the same IgG titre with mean (0.128 ± 0.005 IU/ml) compared to mice injected with the same vaccine through intraperitoneal injection with IgG titre mean (0.11 ± 0.021 IU/ml). This result suggested that there is no significant difference in IgG titre in mice injected through intramuscular injection or intraperitoneal injection. So, in the future intraperitoneal injection can be used to study the efficacy of the vaccine in mice.

Keywords: Toxoplasmosis, MIC3 gene, *T. gondii*, intraperitoneal, intramuscular