Evaluation of protection against rabies induced by a plasmid DNA vaccine with or without liposome association.

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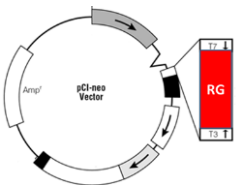
INTRODUCTION

Gene-based vaccines, such as the one used in this study, are plasmid DNA molecules containing the gene encoding an immuno-relevant antigen under the regulation of promoter sequences that ensure the expression of this gene in mammalian cells. These vaccines induce a specific immune response, are safe, physically stable, and low-cost compared to conventional vaccines. In recent years, various strategies have been developed to increase the efficacy of DNA vaccines, such as electroporation, the use of liposomes, micro or nanoparticles, etc.

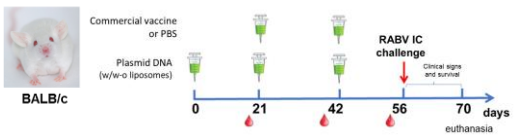
The ***aim of this work is to evaluate the protection conferred by the gene-based vaccine pCI-RG (plasmid DNA expressing in vivo the rabies glycoprotein -RG-) associated or not with liposomes in the murine model.***

METHODS

Construction of plasmid pCI-RG



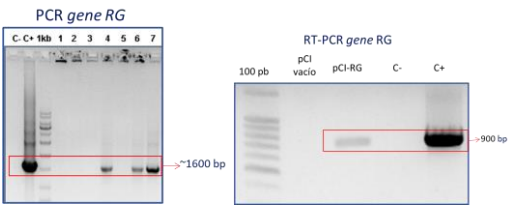
Experimental design



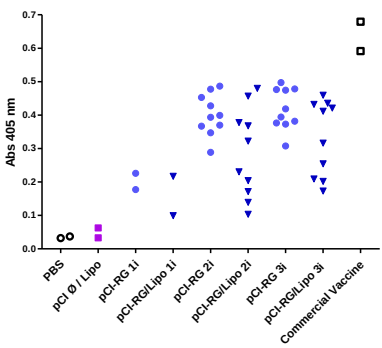
Groups	Route	Doses
pCI-Ø + liposome	IM	100 µg
pCI-RG		
pCI-RG + liposome		
PBS	IP	0,25 mL
Commercial Vaccine	IP	0,25 mL

RESULTS

Presence and expression of the *RG gene* in pCI-RG transfected BHK-21 cells



Anti-rabies ELISA



Protection against RABV IC challenge

Groups	% Survival
pCI-Ø + liposome	0
pCI-RG	100
pCI-RG + liposome	100
PBS	0
Commercial Vaccine	100

CONCLUSION

• The pCI-RG plasmid alone or vehiculated by liposomes induces a specific protective response against RABV IC challenge in the mouse model.

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