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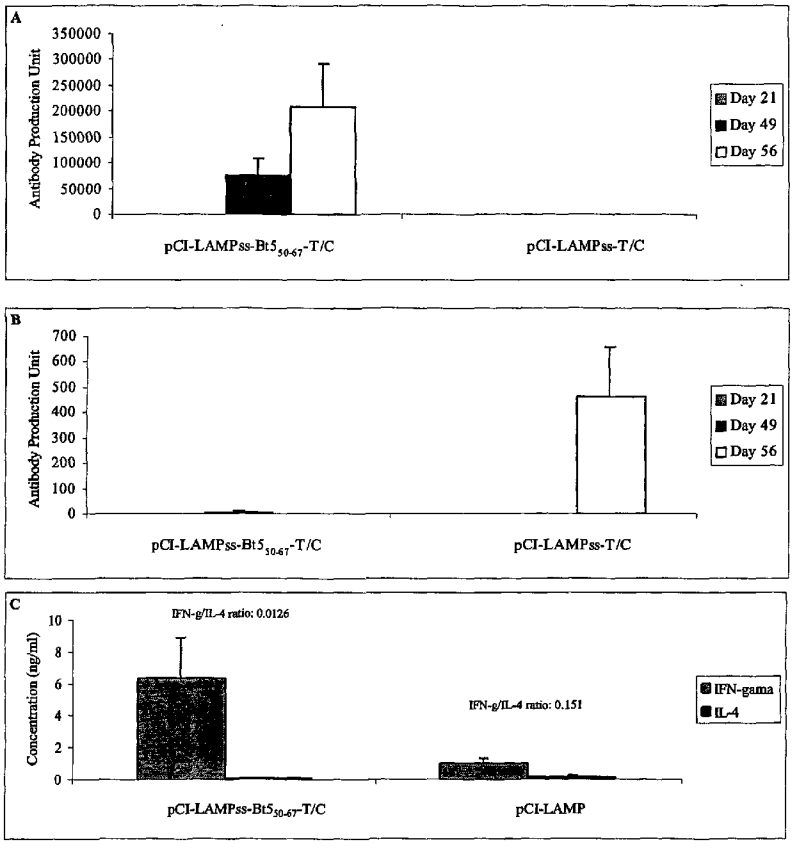
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(54) Title: RECOMBINANT NUCLEIC ACID USEFUL FOR INDUCING PROTECTIVE IMMUNE RESPONSE AGAINST ALLERGENS



(57) Abstract: The invention provides a recombinant nucleic acid useful for inducing a protective immune response against an allergen. The recombinant nucleic acid encodes an allergen and a signal peptide that mediates the translocation of the allergen to endoplasmic reticulum and preferably also encodes a second signal peptide that targets the gene to an endosome or a lysosome. The recombinant nucleic acid, when administered to a subject induces a Th 1 type immunity and inhibits IgE production and therefore may be used to prevent and treat an allergic reaction. In various aspects therefore, the invention provides a vaccine and immunogenic composition comprising the recombinant nucleic acid.

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