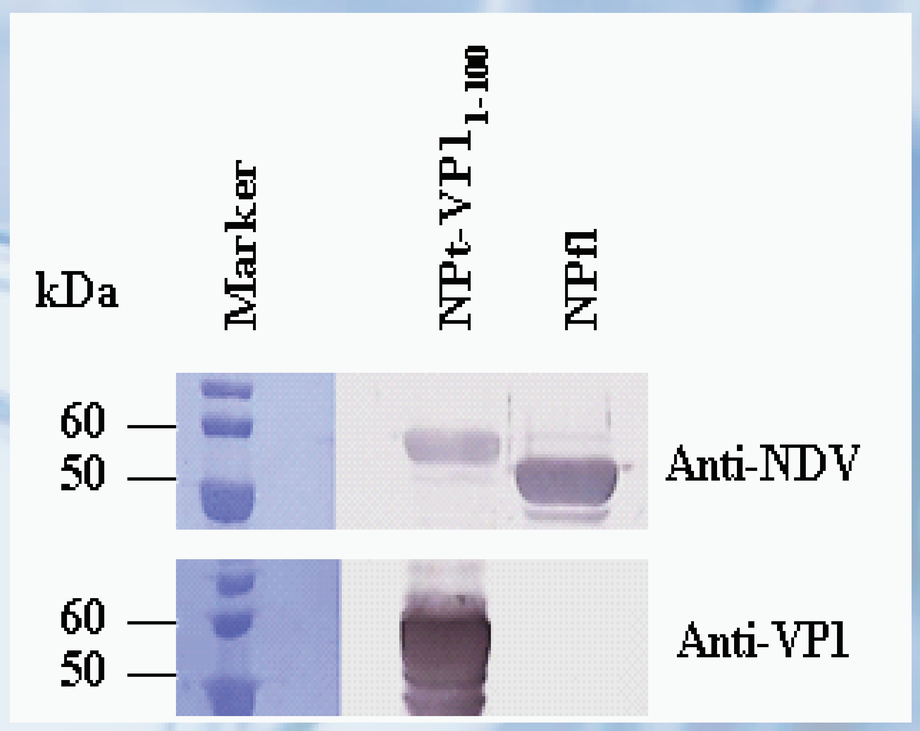
CANDIDATE EV71 VACCINE

Publication ISSN: 1096-9071
NP US Patent No.: 6,939,957



INTRODUCTION/NOVELTY

The development of NPt-VP1$_{1-100}$, a subunit candidate vaccine which had truncated VP1 protein of EV71 capsid protein as a C terminal extension of a truncated nucleocapsid protein of Newcastle Disease Virus. It is able to trigger significant immunity in both cell-mediated and humoral type responses.

USEFULNESS/ADVANTAGES

- Since EV71 causes severe infections mostly in children, we utilized a newborn mouse model to mimic children's immunological responses.
- NPt-VP1$_{1-100}$ protein effectively reduced the mortality rate and improved recovery after EV71 viral infection.
- The antibodies also contributed towards reducing viral load at early stages of infection which led to successful viral clearance in the brain and spinal cord.

MARKET POTENTIAL

NPt-VP1$_{1-100}$ protein is a promising candidate subunit vaccine for EV71 infection.

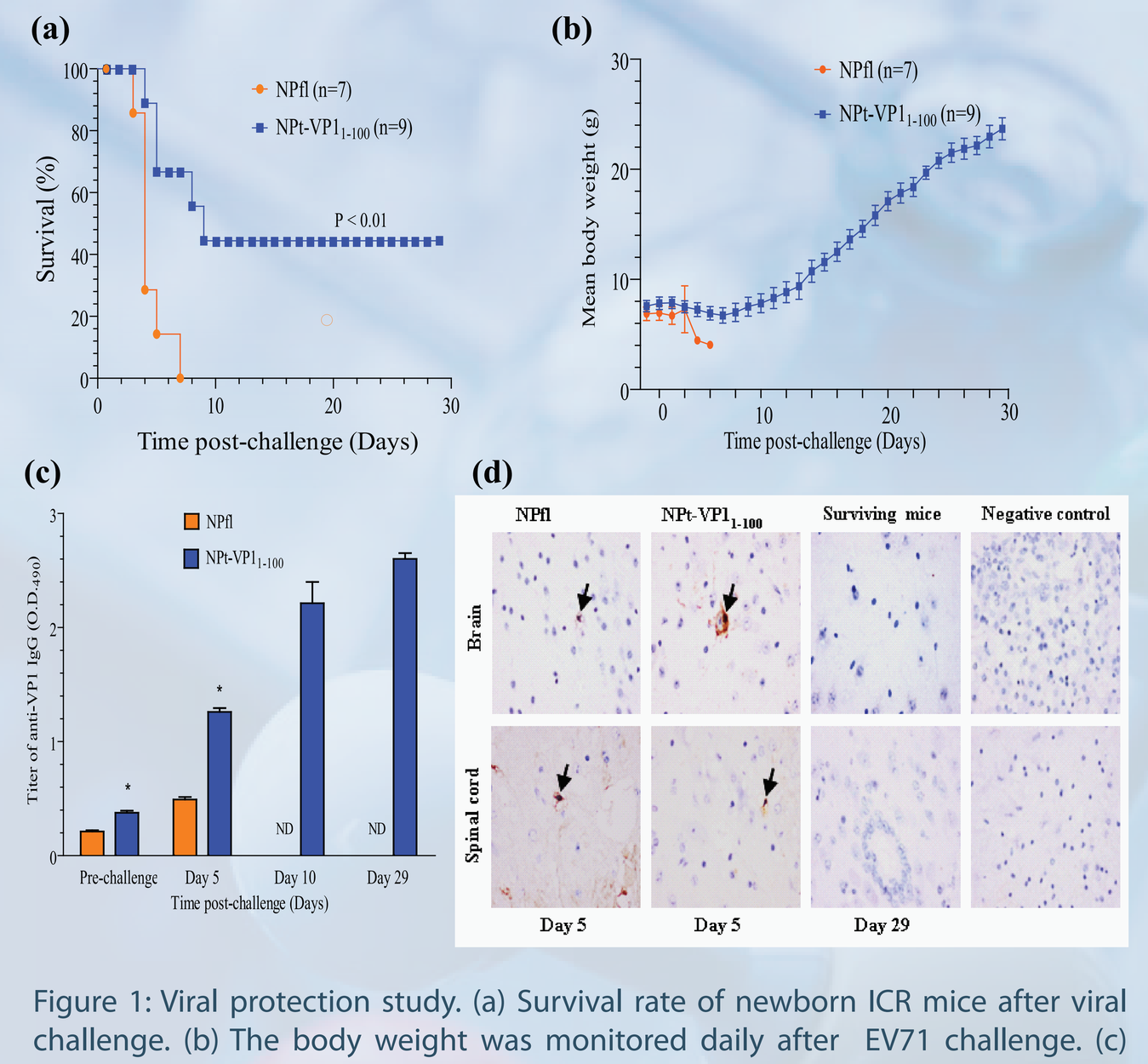
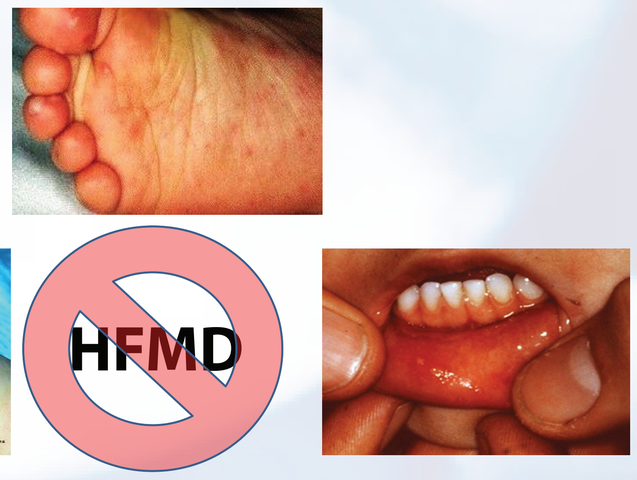
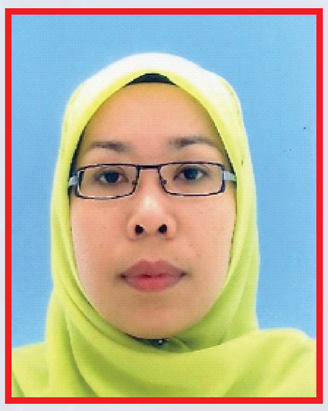


Figure 1: Viral protection study. (a) Survival rate of newborn ICR mice after viral challenge. (b) The body weight was monitored daily after EV71 challenge. (c) Determination of anti-VP1 IgG antibodies generated in mice after immunization and viral challenge. *, $p < 0.0001$ versus the control group. ND indicates that the test was not done since all mice in the NPfl group died before day 10 post-challenge. (d) Detection of EV71 viral antigen in the brain and spinal cord of mice from the NPfl- and NPt-VP1$_{1-100}$-immunized groups at day 5 and day 29 post-challenge. Arrows indicate positive antigen detection. Magnification = 400×.





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