



**M+PAC<sup>®</sup>**

**Fewer lesions, more growth**



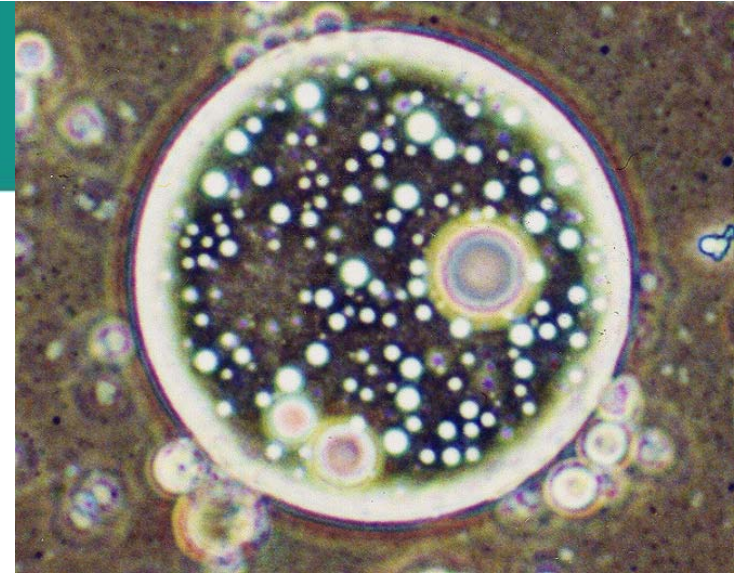
# M+PAC Product Features

## A powerful and efficacious M. Hyo vaccine

- Vaccination options: one-dose or two-dose vaccination
  - One-dose vaccination: one 2-mL dose from 3 weeks of age onward
  - Two-dose vaccination: the first 1-mL dose from 1 week of age onward and the second 1-mL dose 2-4 weeks later
- Onset of immunity:
  - One-dose vaccination: proven protection 21 days after vaccination
  - Two-dose vaccination: proven protection 21 days after second dose
- Duration of immunity:
  - Proven efficacy of at least 6 months for both one and two-dose
  - Proven protection in face of MDA for both one and two-dose
- Adjuvant: Emunade®
  - Advance oil-in-water with aluminum hydroxide formulation
  - Rapid onset with prolonged and enhanced immune response

# Emunade Adjuvant

Dual adjuvant  
Aluminum hydroxide  
Oil and water emulsion

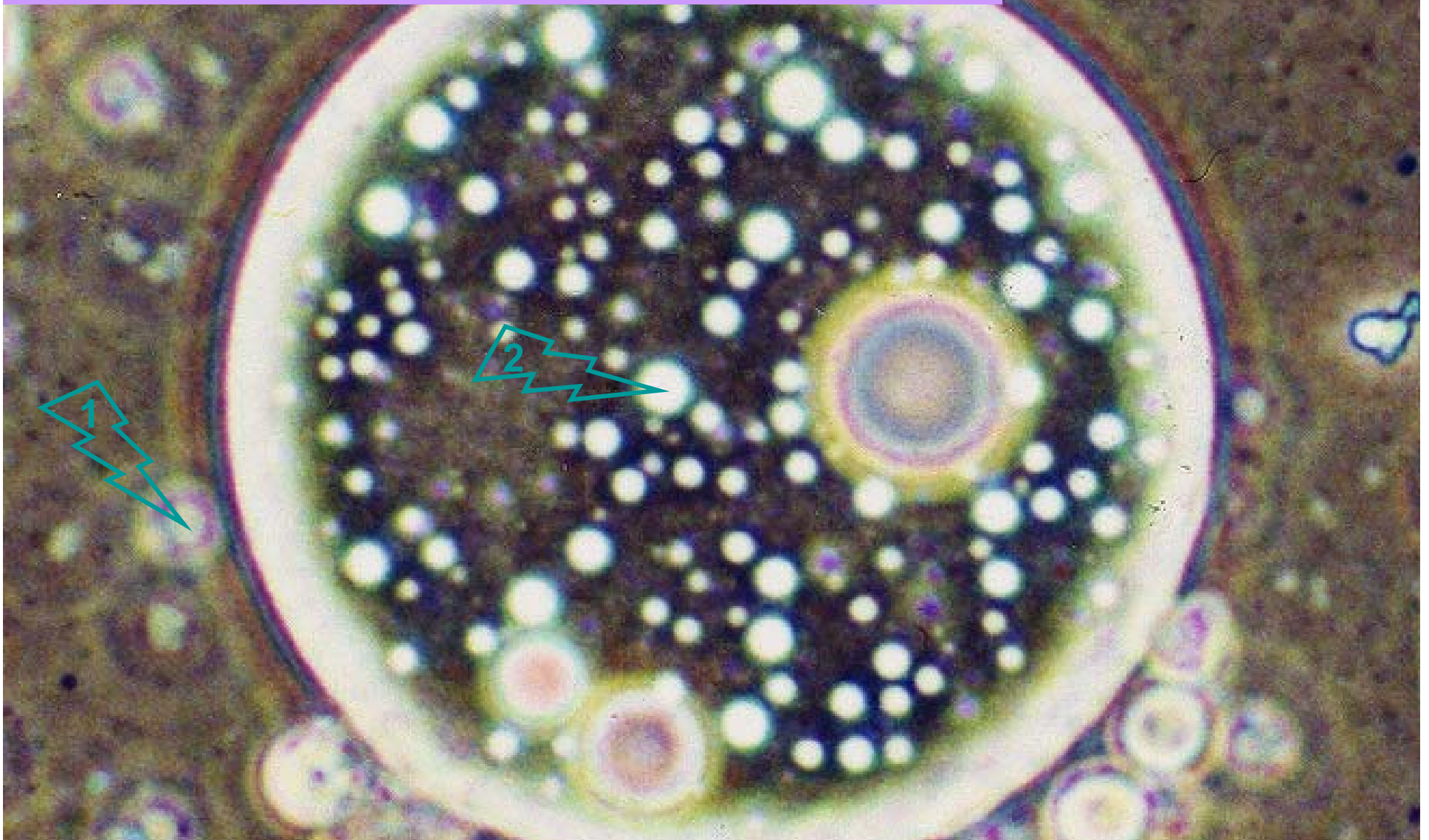


Emunade is both fast acting and long lasting

Emunade contains aluminum hydroxide, which produces a rapid immune response. It also contains an oil emulsion, which is broken down over time, producing a prolonged immune response.

- Antigen on the surface stimulates early immunity → **ONSET OF IMMUNITY**
- Antigen on the inside is released slowly, resulting in long-lasting immunity → **DURATION OF IMMUNITY**

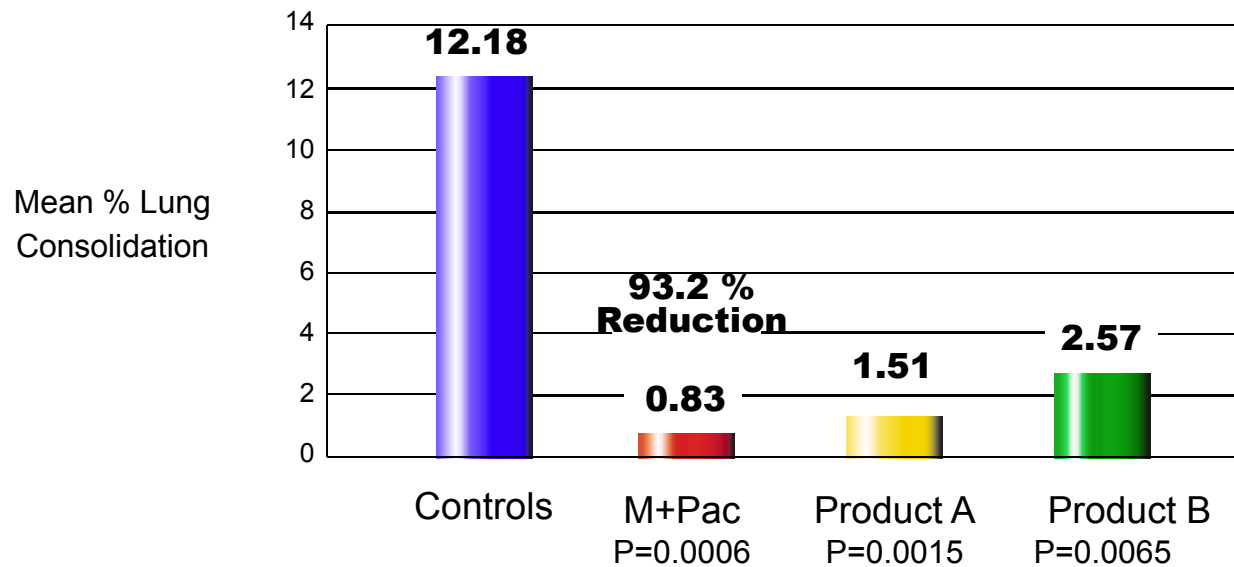
Antigen is absorbed onto the surface of the oil droplets, as well as into the interior of the oil droplets



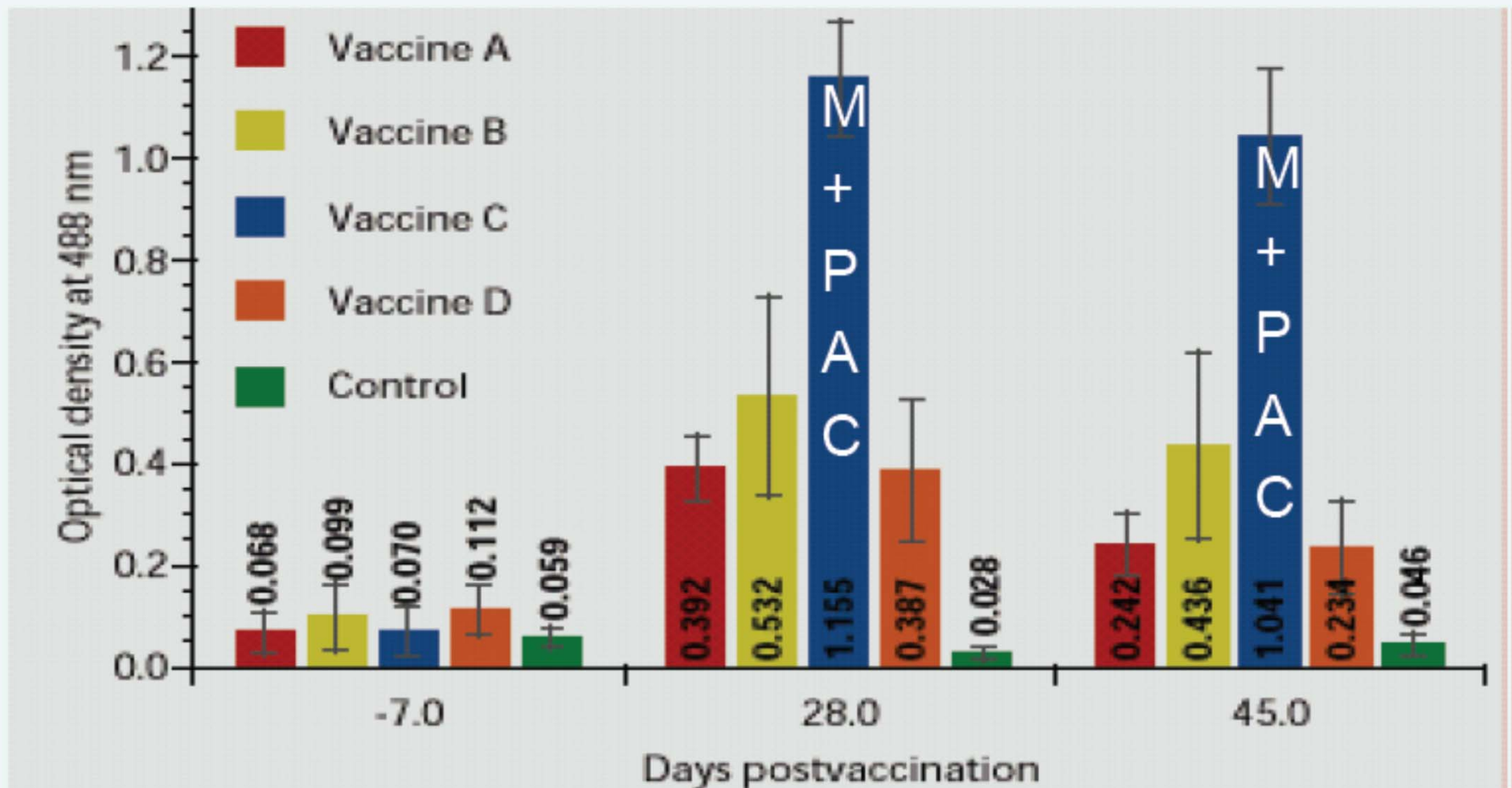
Antigen on the surface stimulates early immunity  
Antigen on the inside is released slowly, resulting in long-lasting immunity

# M+PAC - One-Dose Program

Competitive One-Dose *M. Hyo* Products Comparison

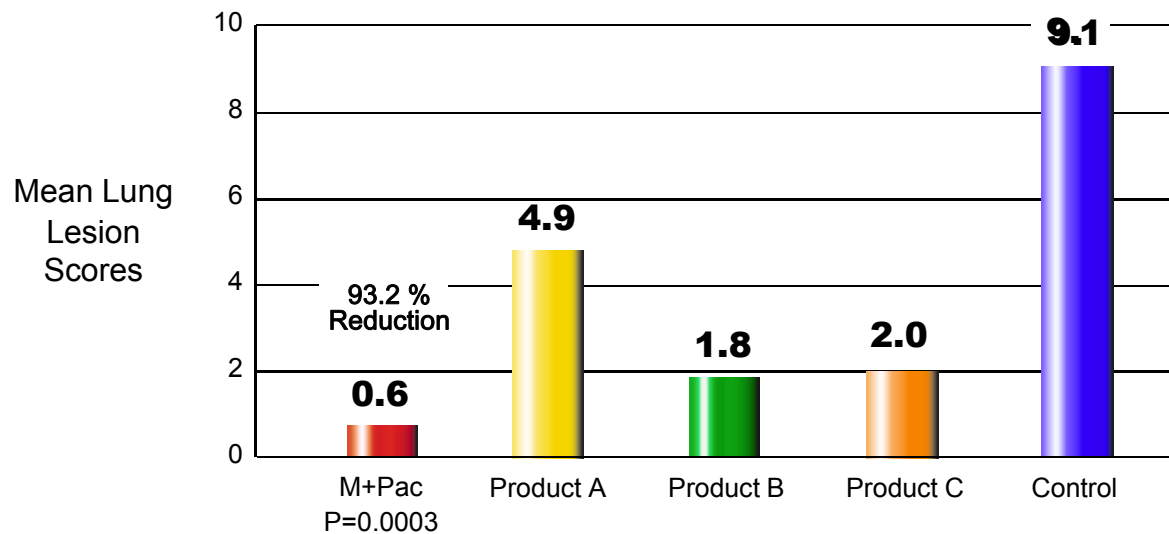


# Mean serum antibody levels against *M. hyo* (ELISA)



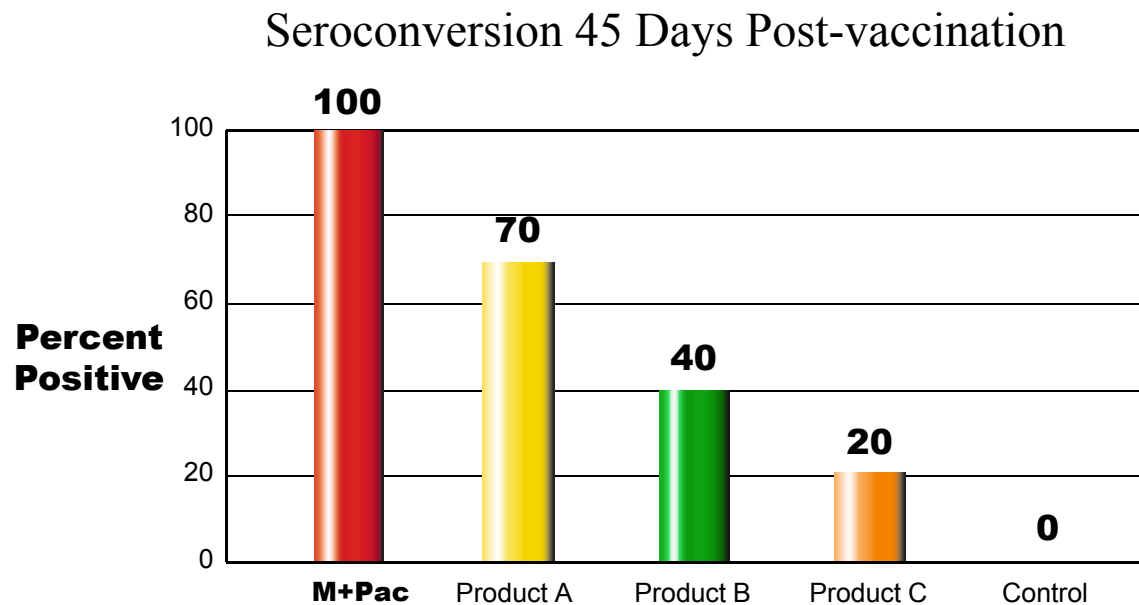
# M+PAC - Two-Dose Program

## Competitive Product Vaccination and Challenge Study



All treatment groups were statistically significantly different than controls.  
The difference between treatment groups was not statistically significant.

# M+PAC - Two-Dose Program

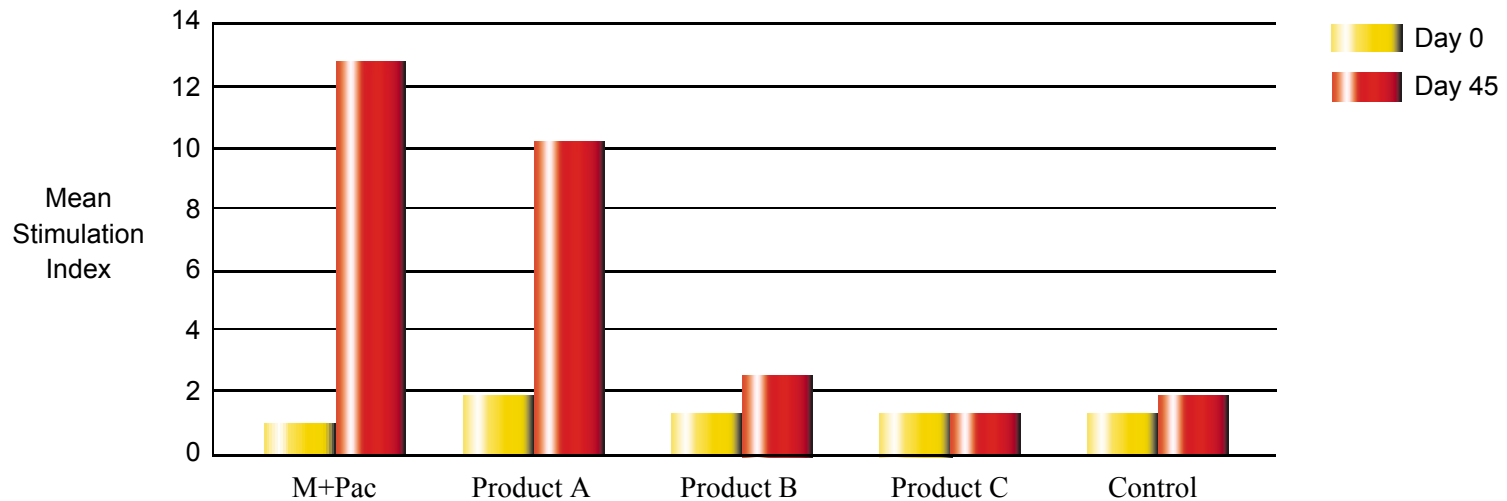


M+PAC rate of seroconversion statistically significantly higher than all other groups.



# M+PAC - Two-Dose Program

## Cell Mediated Immune Response



Stimulation index for M+PAC and Product A were statistically significantly greater than for Product B, Product C, and controls at day 45.



**M+PAC<sup>®</sup>**

**Fewer lesions, more growth**

