HIV Vaccine Research
AFRIMS – Dept. of Retrovirology
Update & Future Plan

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PrEP Stakeholder Meeting
December 8-9, 2010
Bangkok, Thailand
Vaccines – The Ideal PrEP

- Long term protection
- Can be given before initiation of risk behavior or in advance of epidemic
- Better compliance
- Avoid concerns with drug resistance
- Can be incorporated in existing vaccination program
- Most cost effect way for preventing infectious diseases
Research focus

Develop a globally effective HIV vaccine

- Conduct clinical trials of HIV vaccine candidates from phase I to III
- Investigate human immune responses to HIV infection and HIV vaccine
- Characterize HIV epidemic and HIV viral diversity among high risk population
Thai Phase III - RV144

Key findings:

- Vaccine regimen is safe
- Modest protection, efficacy = 31.2%
- No effect on post-infection viremia or CD4 count
- Efficacy appeared higher in lower risk group
- Effect appears to be early and transient
RV144 Efficacy Summary

Key Findings

- Modest efficacy, 31%
- Modest efficacy 31.2% @ 42 months, VE = 60% (95% CI 22,80) @ 12 mo
- VE appeared higher in persons at lower risk?

Key Questions

- What is the correlate of protection?
- Can efficacy be sustained with a booster dose at 12 months?
- Can vaccine protect those with higher risk?
Correlates Discovery Efforts

- Using samples collected from RV144 volunteers
- Over 30 proposals from 35 leading scientists
- Proposals reviewed by Scientific Steering Committee made up of vaccine experts
- Work is ongoing
RV144 Follow-on Studies

- All focused on evaluating immunogenicity to improve the vaccine combination. Not efficacy trial

- AIDSVAX by itself (RV328) – April 11
  - Vaccinate new volunteers
  - Evaluate contribution of ALVAC

- RV 144 extended boost study (RV 305) – July 11
  - Vaccinate uninfected RV 144 vaccine recipients
  - Evaluate value of late boost

- Intensive immunogenicity study (RV 306) – Sept 11
  - Vaccinate new volunteers
  - Evaluate immunogenicity of additional boost with different boost regimen
  - Immunological assessment of mucosal and systemic compartments
Future phase IIB Studies

- Trial in MSM in SE Asia for potential licensure
- Vaccine combination designed against non-subtype E and tested in high risk heterosexual population
- Planned for 2014
Towards a global vaccine

- Vaccines designed to protect against major HIV subtypes around the world.
- Potential vaccines still in early development
- Early phase I trial just beginning
- Phase IIB targeted for 2015
Non-vaccine Research

- Contribute to vaccine development
- Study of immune response and characteristic of HIV during acute HIV infection
- Study the genetic changes of HIV virus