

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

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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