

**Initiative for Vaccine research  
Department of Immunization, Vaccines and Biologicals (IVB)  
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**STATEMENT FROM  
THE WHO-UNAIDS HIV VACCINE ADVISORY COMMITTEE (VAC) ON  
NIH/HVTN/MERCK RELEASE OF NEW DATA FROM THE ANALYSIS  
OF STEP TRIAL RESULTS**

On 7 November 2007 at the HIV Vaccine Trials Network (HVTN) meeting in Seattle, NIH, HVTN and Merck released updated results based on post hoc analysis of data from a large-scale STEP trial with a Merck candidate vaccine (MRK-Ad5). The background information for this trial was presented in a statement issued by IVR on 24 September 2007, informing about a discontinuation of this trial by an independent Data and Safety Monitoring Board (DSMB), following an interim analysis suggesting the lack of potential efficacy of this candidate vaccine ([http://www.who.int/vaccine\\_research/en/](http://www.who.int/vaccine_research/en/)). Since discontinuation of the trial, the vaccinations had been stopped and all volunteers received extensive counselling. In parallel, more in-depth research to analyse data derived from a total trial population was undertaken by the trial sponsors which have now been presented to the global HIV vaccine community.

The latest analysis of results indicate that although the Merck's candidate vaccine was quite potent in inducing relevant immune responses, still it was not effective neither in preventing HIV infection nor in decreasing the virus load levels in volunteers who became infected, in spite of vaccination. In addition, the analysis revealed some unexpected trends, suggesting that some of the volunteers who received the candidate vaccine might have increased susceptibility to HIV infection, in particular those volunteers who have higher levels of pre-existing immunity to the vector (Adenovirus serotype 5) used in this vaccine preparation.

The analysis showed that out of the total 82 cases of HIV infections detected during the trial, 49 cases were found among 914 male volunteers who received the candidate vaccine, as compared to 33 cases in 922 male volunteers in a placebo group. At the same time, only one infection was detected among the 1100 female volunteers in this trial. The explanation for these observations could be due to numerous factors related to the candidate vaccine itself, as well as to the host and viral factors, which will require further detailed investigation and additional specially designated research studies. In addition, there have been many other differences between different groups in this trial, and the true relationship to vaccination and other factors remains to be further clarified. More detailed information on this trial could be accessed at the [www.hvtn.org](http://www.hvtn.org) and [http://avac.org/pr\\_step.html](http://avac.org/pr_step.html).

In spite of these disappointing and unexpected results, the WHO-UNAIDS Advisory Committee (VAC) strongly believes that in no way should these results should serve as an obstacle for further continued research efforts towards a future HIV vaccine. At the same time, a number of important lessons could be learned:

Firstly, although the results from this trial did not meet our expectations, it still produced very important scientific data which will be of paramount importance for further development of a safe, effective and accessible HIV vaccines.

Secondly, these results emphasize again the importance of careful safety monitoring of new vaccine candidates, by applying novel trial designs that incorporate additional safety check points, which were successfully used in the present STEP trial. For the future, it will be important that all relevant safety data generated in multiple vaccine candidate trials should become publicly available to all HIV vaccine development stakeholders and national regulatory authorities.

Lastly, VAC members would like to commend the excellent partnership and effective collaboration between academic institutions, pharmaceutical industry, international DSMB, volunteers and communities from developed and developing countries, who made it possible to conduct this trial at the highest scientific and ethical standards with special emphasis on safety of study volunteers.

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WHO Initiative for Vaccine Research: [http://www.who.int/vaccine\\_research/en/](http://www.who.int/vaccine_research/en/)

Merck news release:

[http://www.merck.com/newsroom/press\\_releases/research\\_and\\_development/2007\\_0921.html](http://www.merck.com/newsroom/press_releases/research_and_development/2007_0921.html)

U.S. National Institute of Allergy and Infectious Diseases press release:

[http://www3.niaid.nih.gov/newsreleases/2007/step\\_statement.htm](http://www3.niaid.nih.gov/newsreleases/2007/step_statement.htm)

AIDS Vaccine Advocacy Coalition press release: [http://avac.org/pr\\_step.html](http://avac.org/pr_step.html)