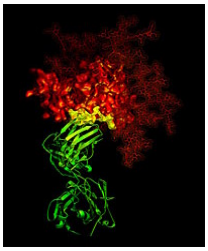

TO THE FEDERAL TRADE COMMISSION (FTC)
EMERGING HEALTH CARE COMPETITION AND CONSUMER ISSUES – COMMENT, PROJECT No. P083901
Re: COMPETITION PROVIDED BY DEVELOPING AN ABBREVIATED REGULATORY APPROVAL PATHWAY FOR FOLLOW-ON BIOLOGIC "DRUGS" [1]
FEDERAL REGISTER NOTICE Vol. 73 p. 51479, SEPTEMBER 3, 2008 ("Notice")

In response to FTC's Notice, please consider the affect on consumers' best interests that the proposed intellectual property protections may have on biologics needed to address critical domestic and global health emergencies. Those protections affect accelerated ethical research and global delivery of a vaccine to prevent infection by HIV, the virus that causes AIDS and other medical products. As discussed below, incentives and funding for these complex products may differ from those applicable to commercially available biologics.

Encouraging the best means to develop an HIV vaccine is a domestic and global health priority. Even before significant clinical trial findings last year that provoked an overhaul of the development agenda, the discovery of a safe and effective HIV vaccine was recognized as among the most difficult questions in science and medicine.[2] Those

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[1] The red ribbon is a non copyrighted image provided by UNAIDS http://www.unaids.org/fr/KnowledgeCentre/Resources/FeatureStories/archive/2006/20061130_RedRibbon_en.asp The second publicly available image is a 3-D X-ray crystallographic image showing the broadly neutralizing antibody b12 (green ribbon) in contact with a critical target (yellow) for vaccine developers on HIV-1 gp120 (red). Credit: NIAID http://www3.niaid.nih.gov/news/newsreleases/2007/b12antibody.htm FTC uses the term "biologic 'drugs'" in its notice. Most often "drugs" – small chemical molecules- are distinguished from "biologics" large molecule proteins or agents derived from living matter. A helpful explanation is at Henry Grabowski et al., The Effect on Federal Spending of Legislation Creating a Regulatory Framework for Follow-on Biologics: Key Issues and Assumption, White Paper (August 2007), available at http://bio.org/healthcare/followonbkg/Federal_Spending_of_followonbkg200709.pdf pp. 12-13.

[2] "This is one of the most difficult problems in science today," said Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases. G-8 nations back global research for AIDS vaccine, Seattle-Post Intelligencer, June 11, 2004 **http://www.seattlepi.com/health/177369_hiv11.html**

questions are even more difficult to answer today because of the ability of the virus to mutate without loss of potency/infectivity, attack the immune system that ought to neutralize it but cannot, hide out in latent reservoirs and appear in recombinant forms that are almost equally pathogenic but which may require individual product developments to harness several different adaptive responses.

HIV has caused millions of deaths and is estimated to infect over 33 million people currently, most of whom live in countries of limited resources where the devastating effect on mortality, economy and social structure goes unchecked. That was the situation before the recent events of a collapse in financial markets, incentives and funding. The money situation for research is more dire now both globally and affecting the estimated 56,000 number of new domestic HIV infections that occur annually, disproportionately affecting minorities, women and those least able to access healthcare and medical products.

There are no "reference" HIV vaccines now nor is it likely that there will be any safe and effective followons to a particular HIV reference vaccine after discovery because of the complexity of this large molecule, the not to be imitated know how required to manufacture it from biologically unique materials and other data and trade secret information issues. A regulatory scheme that did not include strict FDA and international oversight over the procedure for validating a followon vaccine of this type would be imprudent. FDA has already said that such approvals should not be expected. We all hope for more than one effective vaccine but it will not be a generic or sufficiently similar "copy." As to the prospect of a *followon* HIV vaccine and the FTC's immediate scope of inquiry, candidly, we should only be so lucky to have this problem. Nevertheless, the IP and incentive mechanisms FTC is deliberating – and for which solutions are proposed by both first brand innovators and generic manufacturers - are of great concern because they will have an effect - perhaps adverse - on the regulatory and property right regimes conducive to accelerated ethical research in discovering and making an HIV vaccine.

Towards that end, it is welcome that Commissioners at the FTC continually remind the public, the Department of Justice antitrust division and others that, whatever the jurisdictions of other agencies may be, FTC's focus is the best interest and welfare of consumers, in this case, patients and at risk populations.[3] The best interests of patients and at risk populations should guide FTC's policy development for the products.

Others who have responded to FTC have used the question/answer format to submit information for individual questions in the Notice. To explain issues that differentiate at risk population concerns from those put forward by innovators and makers of generics, please allow this alternative narrative format.

[3] See, The Competitive Implications of Generic Biologic. Remarks of Commissioner Pamela Jones Harbour before ABA Sections of Antitrust and Intellectual Property Law, "Intellectual Property Antitrust: Strategic Choices, Evolving Standards, and Practical Solutions," June 14, 2007 http://www.ftc.gov/speeches/harbour/070614genbio.pdf

Many features of competitiveness, research incentives, patent landscape, data exclusivity, return on investment and pricing germane to commercial currently marketed biologics differ in kind or degree from factors affecting HIV vaccine development. These differences include:

- **Funding:** Some have asserted that "virtually all major discovery and innovation in biologics" is funded privately by venture capital, a fact that those proponents say should guide the FTC's policies.[4] That is simply not the case so far with funding for HIV vaccines and other global health medical products. Over 90% of research funding comes from both government sources (>80%) or nonprofit foundation grants.[5] The IP terms of these funding mechanisms are directed by policies generated under public technology transfer and licensing. The lack of a vigorous venture capital infusion or spearheaded by larger pharmaceutical companies may be due to the uncertainties and risks of the IP landscape.

- **IP Landscape:** As complex as the patent and other property rights issues may be for many "simpler" biologics, even other vaccines such as for HPV, the applicable property rights for HIV vaccines are orders of magnitude greater, characterized by an elaborate patent thicket, patent stacking or blocking problems, materials and data sharing frustration and significant know how. The complexity tied to this product development makes the effort more like the research conducted by electronic computer hardware and software makers who rely on open source sharing rather than the private innovations of a single pharmaceutical lab. HIV vaccine developers may have an even worse time than hi-tech companies because of the lengthy and frustrating clinical trial process. A detailed study of these HIV vaccine problems along with some proposed solutions was published in 2005.[6]

  FTC may legitimately ask, if no followon product can be expected, or if even a second innovator product is so difficult to foresee, in a heavily thicketed field of operation, whether the role of patent protection could function differently from its role for other products. While FTC goes about to craft rules to allocate between competitive innovators and generic companies, please exercise caution to evaluate effects of those rules on other public health products.

- **Costs and time for product development:** While all pharmaceutical development is subject to great uncertainty and failure rates, the time to develop and test an HIV vaccine is significantly longer than for other biologics. The time frames mentioned as needed to protect rights for other biologics – 14 years of

[4] Letter from National Venture Capital Association to House Committee on Energy and Commerce, Subcommittee on Health, May 2, 2008, p. 5. http://www.**nvca**.org/pdf/**NVCA**_Follow-on-**Biologics**_Responses.pdf

[5] The HIV Vaccines and Microbicides Resource Tracking Working Group. Sustaining the HIV Prevention Research Agenda: Funding for Research and Development of HIV Vaccines, Microbicides and other New Prevention Options, 2000-2007 - August 2008 http://www.hivresourcetracking.org/

[6] "Intellectual Property at the Crossroads," 2005 AVAC Report http://www.avac.org/pdf/reports/2005_Chapter4.pdf

patent protection and some years of data exclusivity – are in some ways irrelevant to or frustrating for HIV vaccine developers who need real time quick access to rights in a cooperative manner. The purposes of those protections of rights – to secure means for recouping privately funded efforts – are less forceful when pricing of the final product may yield to public health emergency considerations and when private outlays are mitigated by public funding. Even if a promising product can be brought to late stage development, a process that itself takes many years after initial basic science, efficacy testing and approval can add on many more years till approved marketing for these products.

- **Spurs to innovation, risk and reward.** The principal incentive for other products - market demand pricing – is less evident for a widely necessary global health intervention, funded by government or nonprofit efforts, to address an emergency. While there is some concern today about the eventual pricing of an HIV vaccine, it is not likely to be set so as to deny access substantially if a product can ever be shown to work well. On the other hand, harnessing creative early stage research in this field is challenging when the IP landscape is so forbidding and data and samples hard to come by. The role of many small startup companies and major pharmaceutical corporations is vital to success. The danger is that those innovators will find many other more lucrative commercial opportunities for the rights they own that could instead be used in HIV vaccine research. Inventing an HIV vaccine is like running a marathon, while other biotechnology efforts are, relatively speaking, sprints. When the carrier vector, cell line technology, research tool, adjuvant, materials or data could also be used for a more immediate commercial purpose, public health research competes unfavorably with those alternatives. These are not reasons to extend patent protection or data exclusivity periods when the aim is shorter response time to a complex global health emergency. These are circumstances suggesting ways to encourage use of information when the long term goal is more uncertain than usual, the need greatest but the prospect of monetary reward is remote.

- **Necessary sharing of IP:** Protected IP should be supported in vaccine research, but experience also shows that research can be unnecessarily delayed because of lack of access to materials or data or unwillingness to test and share combinations of exclusively held products –for example a prime HIV vaccine product owned by one university paired beneficially with a HIV vaccine boost owned by another, along with a commercially owned adjuvant that must be individually verified with each separate combination. Many HIV vaccine research teams cooperate to a high degree but they still do not own all rights to or often shy away themselves from providing all rights needed to progress effectively. These issues were raised recently at the HIV vaccine summit convened by the NIH to redirect its scientific agenda.[7] The reasons for withholding rights may not always be completely evident. The reasons may be due to fears of using rights to obtain commercial

[7] http://www3.niaid.nih.gov/news/events/summitHIVVaccine.htm view webcast of Panel 3: Clinical Research and Trials. See also Mandavilli, A. Scientists, NIH in conflict over precious HIV samples Nature Medicine 13, 515 (1 May 2007) | doi:10.1038/nm0507-515;

rewards for *other* non-HIV vaccine products and invention of other more profitable products without rewards to the original holder.

For these and other reasons, please conduct the FTC workshop with a sharp eye towards unintended consequences for global health response should property rights be based solely on traditional commercial incentives. A recent study by the International Expert Group on Biotechnology, Innovation and Intellectual Property challenges the view that strict IP protection alone is the best way to spur creative research. [8] There is good support for the views of many biotechnology companies that private innovation requires strong protection, but modifications are necessary when the source of capital and support is public money devoted to a pure public interest. To avoid unintended consequences, consider the following suggestions:

1. Do not confine evaluation of new statutory schemes for protecting property rights to Hatch-Waxman type exclusivity incentives. Protect but also make room to share. Consider added tools that may result from modified Bayh-Dole methods for government funding and licensing of rights to which the public retains a significant interest or from grants policies. While there should be reservations about unnecessary use of compulsory licensing or march-in rights, amended Bayh Dole means or grants policy can be used to encourage or mandate further directed sharing and cooperation for public health uses. Revisions to current statutory or policy rules may be needed. Sharing of data and samples must be a part of any organized effort. Examine other pharmaceutical development business models. [9]

2. While some tools for sharing rights are technically available – such as patent pools for biotechnology products or sophisticated licensing – in practice those tools do not reach broadly enough to make owner/innovators sufficiently comfortable to share or they do not assemble sufficient collections of property to overcome barriers to research.. Owners may not trust the ability to value individual contributions in a pool devoted to early stage research or to allocate rights to products derived from such research. [10] Many owner/innovators have found means to donate rights to nonprofits or global health consortia but only in limited ways. Other mechanisms are needed to allow owners to share rights during early phase research without fear of losing control over other later unrelated uses of the results from that research.

3. Please consider holding a separate workshop on the consequences for global health products and complex "thicketed" vaccines. Ask and have public, at risk population stakeholders and civil society members answer newer FTC generated questions pertaining to research incentives for these products. In the model of public-private partnerships that has been used so far, some progress has been

[8] Toward a New Era of Intellectual Property: From Confrontation to Negotiation - A Report from the International Expert Group on Biotechnology, Innovation and Intellectual Property http://www.theinnovationpartnership.org/en/ieg/report/

[9] See Institute for OneWorld Health http://www.oneworldhealth.org/business/opportunities.php

[10] See reference at footnote 6

made but not enough since the “partnerships” may contain a small closed circle when a larger one is desirable.

Thank you for your consideration.

[contact information may be placed on FTC website and is not confidential]
Robert Reinhard, public health consultant

68 Yukon Street
San Francisco, CA 94114

tel: 415/570-1010; email: rjreinhard@gmail.com