

In the November 20th 2003 issue of *Nature* Declan Butler, *Nature's* European correspondent wrote a [news item](#) in regard to the BMJ Online debate re HIV and AIDS.

This is our letter in response which was rejected by *Nature* with the following note:

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December 4, 2003

Dear Ms Papadopulos-Eleopulos

Thank you for submitting your comment on one of our news articles to Brief Communications. We will publish a correction to the figure legend to give more detail about the micrograph, which was omitted as you have pointed out.

Regretfully, however, we cannot offer to publish your Communication Arising, because this section is intended for criticisms of our primary research papers.

Thank you again for writing to us.

Yours sincerely

Rosalind Cotter
Editor, Brief Communications

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Eleni Papadopulos-Eleopulos, Valendar F Turner, John Papadimitriou, Barry Page, David Causer, Helman Alfonso.

In Declan Butler's news item (20th November) he has included a scanning electron micrograph which, together with the legend, occupies some 22% of the article and this presumably reflects its importance. However, the source of the electron micrograph (EM) is not given, there are no labels and the magnification is not specified. The appearance of the cell in the micrograph is unlike any white blood cell that has ever traversed the vascular system and if the particles displayed are indeed HIV they are obviously on the cell and not in the cell as the author claims. Moreover, these surface particles are cylindrical and not spherical and are several microns in length and such appearances and dimensions would be not only unique to HIV but to any other retrovirus seen by electron microscopy. It is unlike *Nature* to feature reports in which the scientific rigor is minimal.

In 1984 one of the researchers predominantly featured in the news item, Wain-Hobson and his colleagues, claimed to have obtained "purified" HIV. In the "purified" virus they found a poly(A)-RNA and claimed that this RNA was the HIV genome.¹ However, (i) although poly(A)-RNA is characteristic of retroviral genomes even Gallo agrees it is not specific for retroviruses;^{2,3} (ii) no electron micrograph was published to show that the "purified" virus was free from impurities containing RNA; (iii) they had no controls; (iv) the only EM of "purified" HIV were published in 1997. These showed that the "purified" virus consisted predominantly of "budding membrane particles frequently called microvesicles" amongst which there are a small number of particles which the authors claimed

are HIV but none of which have all the morphological characteristics attributed to HIV. Most importantly, microvesicles obtained from non-infected cells also contained poly(A)-RNA.^{4,5}

According to John Moore, another prominent HIV researcher featured in the news item, "HIV-1 infection of CD4⁺ cells is initiated by interaction between its surface glycoprotein, gp120 and the cellular antigen CD4...On the virus surface, mature gp120/gp41 heterodimers are grouped together into oligomeric spikes that are clearly visible in electron micrographs".⁶ However, to date nobody, not even Hans Gelderblom, could demonstrate that the surface of the "HIV-1" particles is studded with spikes much less with spikes containing "mature gp120/gp41 heterodimers".^{7,8}

The matter of the HIV particle infectivity and its genome is not trivial. Yet, according to the HIV experts, the "sceptics" "are best ignored", a recommendation which extends to disregarding their publications in the peer reviewed scientific journals. Given the importance of this matter *Nature* could either seek clarification from the HIV experts or preferably arrange a scientific debate between the two sides adjudicated by disinterested scientists. In this manner the matter could be resolved once and for all.

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