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The Perth Group revisits the existence of HIV

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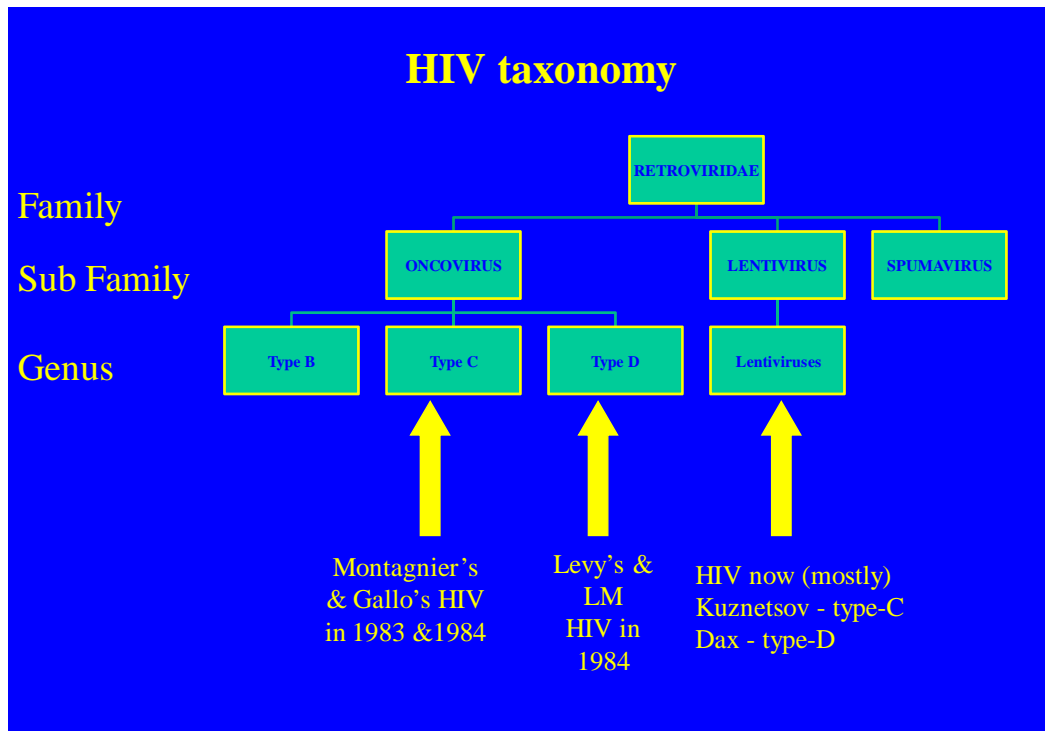
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It is accepted that in 1983 Luc Montagnier from the Pasteur Institute in Paris proved the existence of a new retrovirus presently known as Human Immunodeficiency Virus (“HIV”).¹ Retroviruses are a special type of virus. Like all other viruses they are particles. The main constituents of the retroviral particles are proteins and RNA. This means the minimal evidence one must have to claim the discovery of a new retrovirus is proof showing:

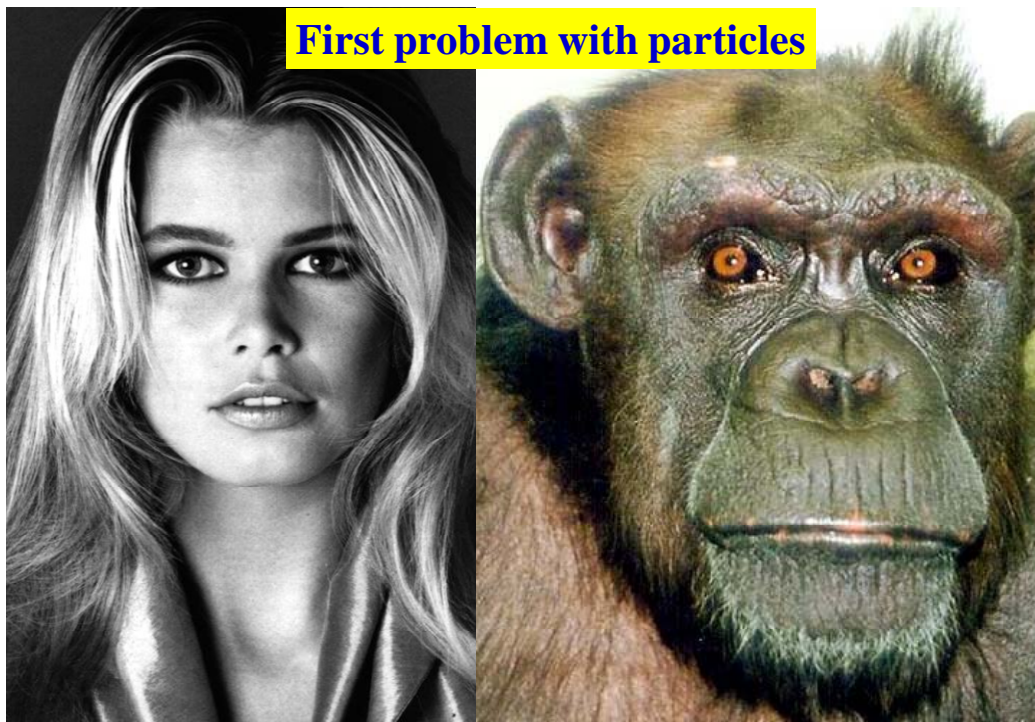
- (1) the existence of retroviral particles with unique morphology;
- (2) the particles have unique proteins and RNA.

The “HIV” particles

By definition viruses belonging to the family of retroviruses are “enveloped viruses with a diameter of 100 to 120 nm budding at cellular membranes. Cell released virions [cell free particles] contain condensed inner bodies (cores) and are studded with projections (spikes, knobs)”.² According to their mode of assembly and fine structure they are divided into sub-families and genera. To date, neither Montagnier nor anybody else has published an electron microscopy (EM) picture of a particle which is claimed to be “HIV” showing all the morphological characteristics of retroviral particles. Furthermore, even today, there is no agreement as to what sub-family or genera the “HIV” particles belong.³ To say that “HIV” is both a type-C particle and a type-D particle is no different from saying one and the same animal is both a human and a chimpanzee.



References for this slide are at the end of this document.

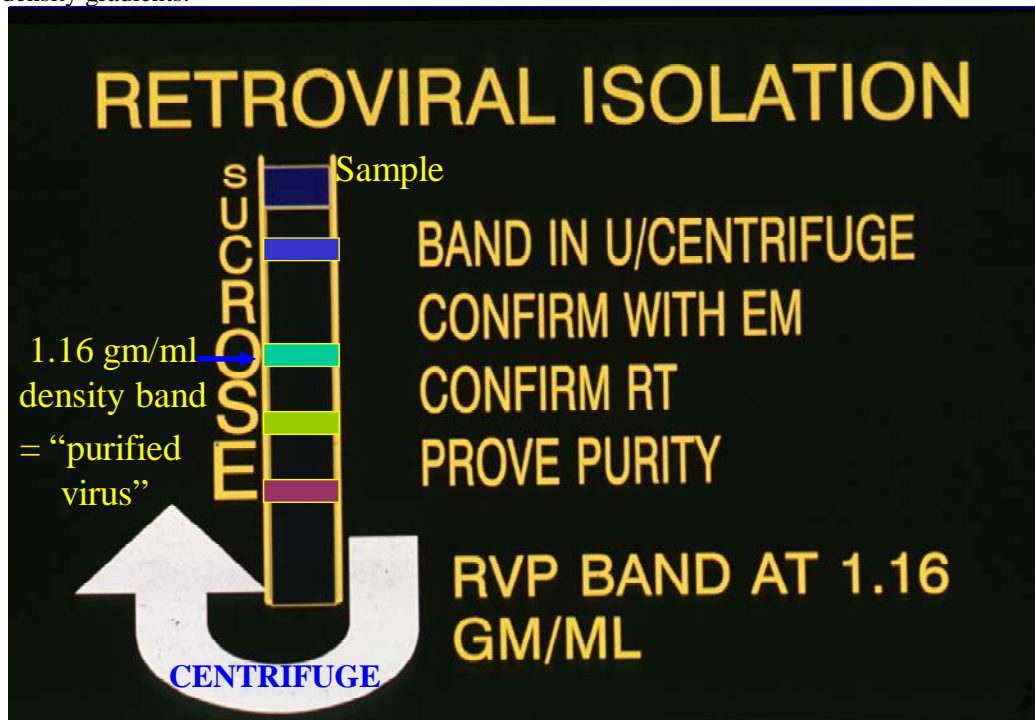


To say that “HIV” is a type-C particle and a lentivirus is no different from saying that an animal is both a human and a gorilla.

“HIV” proteins and RNA

Obviously ownership of proteins and RNA, like the ownership of body parts, is defined by whose body it is. If a scientist wants to analyse either the proteins or the RNA of apples, he goes into an orchard and picks an object which either has been or can be proven to be an apple. He does not pick oranges or pears or a mixture of apples, pears and oranges. Unlike apples where it may be feasible to perform

a protein or RNA analysis on just one apple, the retroviral particles are too small so that it is not possible to obtain a single retroviral particle separate from everything else. If a scientist wishes to analyse the proteins and the RNA of a retrovirus, his first task is to obtain a mass of retrovirus particles separate from everything else which also contains proteins and RNA. That is, he has to isolate / purify the particles. The method used to purify retrovirus particles for over 50 years is called banding in density gradients.



To do the purification a tiny sample of the supernatant (cell culture fluids which may contain the retroviral particles) is carefully placed on top of a tube containing sugar solution whose density gradually increases from top to bottom. The tube is then spun at very high speeds in a specially designed centrifuge. The spinning goes on for many hours generating a force that gradually pushes the different components further and further down through the solution. When a material component of the mixture reaches a place in the solution where its density is the same as the solution surrounding it, it will travel no further. This means that materials of similar density come together and are concentrated in the form of a density band. It is accepted that retroviral particles band in sucrose solutions at a density of 1.16 g/ml.

In the first half of the 1980s Luc Montagnier *et al* and Robert Gallo *et al* claimed to have proven the existence of a new virus, “HIV”, and its proteins and RNA. Both groups put tissues from AIDS patients or those at risk in culture and after drastic manipulation, the culture supernatant (fluids) was banded in sucrose density gradients. Both groups claimed to have obtained 1.16g/ml bands of “purified” virus particles. Among the many claims made by both groups, which we questioned from the very beginning, were the following:

- (1) If the material in the 1.16g/ml band was “purified virus”, then all the proteins and the RNA which banded there must have been retroviral. However, although they had many proteins in the “purified virus”, for some unknown reason, only a few, those which reacted with antibodies in the patient’s sera, were considered to be “HIV”. Similarly, instead of claiming that all the RNA in the “purified virus” was “HIV” RNA (the “HIV” genome), they chose only a special type of RNA, the so-called poly-A (adenine rich) RNA. This poly-A RNA was said to be the “HIV” RNA (the “HIV” genome) although as far back as 1972 Gallo knew this RNA was not specific to retroviruses.^{4,5}
- (2) Both groups of researchers knew that things other than retroviral particles, which also may contain proteins and RNA, for example, cellular fragments present in the supernatant, may band at the density of 1.16g/ml. Both groups had electron microscopes and access to experts in electron microscopy. Yet, neither group published EM pictures of the material which they said was “purified” virus to prove this was the case. The reason for this can be found in an interview given *en camera* by Montagnier to the French investigative journalist Djamel Tahiri in 1997.⁶ Montagnier accepted that “...analysis of the proteins of the virus [obviously this also applies to the viral RNA, the genome] demands mass

production and purification. It is necessary to do that.” When he was asked why they did not publish a picture of the 1.16g/ml band to prove their claim that it represented “purified HIV”, Montagnier’s reply was that even after “Roman effort”, in their “purified HIV” they could not see any particles with the “morphology typical of retroviruses. They were very different. Relatively different”. In further questioning, Montagnier replied “I repeat, we did not purify”. When Montagnier was asked if Gallo purified “HIV”, he replied “I don’t believe so”. In 2001 Djamel Tahı also interviewed Jeanne Claude Chermann, the second author of the 1983 Montagnier *et al* paper. When he was asked if purification is necessary to identify the “HIV” proteins he replied “Yes, of course”. When he was asked how they obtained the “HIV” RNA he replied “From the virus, which we had concentrated and purified”. To the question, “So, this step is an absolute prerequisite to extract the genome?”, Chermann replied “Absolutely”. When he was asked why they did not publish pictures of their purified HIV he replied “Because it had no interest”. (Personal communication from D Tahı: Interview *en camera* with Professor Jean-Claude Chermann, Centre de recherche de Luminy, Marseille France – April 2001. dtahi@terraincognita.fr).

In 2003 we emailed Robert Gallo and asked if he was aware of the Tahı interview and Montagnier’s response in regard to their being no EM of purified virus. Gallo replied “Montagnier subsequently published pictures of purified HIV as, of course we did in our first papers. You have no need of worry. The evidence is obvious and overwhelming.” In fact, there was not one single picture of purified “HIV” published by Gallo in 1984 or at any time since. Neither did Montagnier publish any such pictures. In 2001, Djamel Tahı interviewed Charles Daugeť, the Pasteur Institute electron microscopist and also one of the co-authors of the 1983 Montagnier paper. Like Montagnier, Daugeť was asked why no EM pictures of purified “HIV” were published. His response was “We have never seen virus particles in the purified virus. What we have seen all the time was cellular debris, no virus particles”.

The first and only EM pictures of “purified HIV” were published in 1997. In that year two studies were published, one by a USA team, principal author Julian Bess,⁷ and the other by a Franco-German group, principal author Pablo Gluschkof,⁸ with the first published electron micrographs of “purified HIV”. While in the Gluschkof *et al* studies, the EMs were from the 1.16g/ml, in the Bess *et al* they were from pooled bands. The authors of both studies claimed that their “purified” material contained some particles with the appearances of retroviruses and in fact were “HIV” particles. But they admitted that their material predominantly contained particles which were not retroviruses but “budding membrane particles frequently called microvesicles” which they referred to as “mock virus”. Indeed the caption to the Gluschkof *et al* electron micrograph reads “Purified **vesicles** from infected H9 cells (a) and activated PBMC (b) supernatants”, not purified “HIV” (emphasis added). In further experiments, the supernatant from non-infected cultures was also banded in sucrose gradients. Both groups claimed that the banded material from these cultures contained only microvesicles, “mock virus” particles, but no “HIV”. In the arrowed particles which are said to be “HIV”, it is impossible to locate any which have all the morphological characteristics of retroviruses. In fact, no particle in any study has the principle morphological characteristic of retrovirus, a diameter of 100-120nm and surface spikes, knobs. In the Franco-German study the average “HIV” particle diameter is 136 nm and no particles had a diameter less than 120 nm. In the USA study the corresponding dimensions are 236 nm and 160 nm. In other words, the American “HIV” is twice the diameter of the European “HIV”, and all other “HIV” particles. Furthermore, retrovirologists including Gallo accept that particles may exist which have all the morphological characteristics of retroviruses but they are not viruses.⁹

The minimum absolutely necessary but not sufficient condition to claim that what are called “HIV” particles by the authors of these studies are retroviral particles and not cellular microvesicles is to show that the sucrose density fraction obtained from the infected cells contains proteins which are not present in the same fraction obtained from non-infected cells. Bess *et al* have shown this is not the case. The only difference one can see between the proteins in the “purified virus” and “mock virus” is quantitative and not qualitative. Since the material which was meant to contain “HIV” particles and the “mock virus” had the same proteins, the only conclusion one can draw is that the “purified virus” and the “mock virus” had the same constituents, that is, cell debris, microvesicles.

In a lengthy debate in the British Medical Journal Online lasting from 28/2/2003 to 17/4/2005, Brian Foley, the custodian of the Los Alamos HIV Database, claimed that purification is not necessary to prove the existence of a virus. According to him, the existence of the “HIV infectious molecular

clone” proves that HIV exists. However, after repeated requests he was never able to produce evidence which proves the existence of the “HIV infectious molecular clone”, even by his own definition.

In 2006, based upon the evidence of two Australian “HIV”/AIDS experts, a man, Andre Parenzee, was found guilty of transmitting “HIV” to a female sexual partner. After the trial had finished, the defence lawyer was made aware of our claim that to date nobody had proven the existence of “HIV”. He wanted to appeal and asked us to be his expert witnesses. In order to be granted a re-trial, we had to submit the new evidence in a hearing before a judge of the South Australian Supreme Court**. The main new evidence on which the defence lawyer wanted to base his appeal was “firstly, that viruses are proven to exhibit by a procedure virologists refer to as virus isolation. The presently available evidence does not prove a virus known as HIV has been isolated”. During our cross-examination, the prosecution claimed that to prove the existence of a new virus purification is not necessary and submitted a copy of the first chapter of a textbook called *Medical Virology* written by David O White and Frank Fenner to support their claim.¹⁰ It appears that the prosecution experts either did not read the book or did not understand what the authors of the book were saying. According to the authors, the only way to analyse the proteins and the RNA of a new retrovirus and thus to prove its existence is to purify the viral particles. They wrote:

"CHEMICAL COMPOSITION OF VIRUSES

Methods of Purification

An essential prerequisite for the chemical analysis of viruses has been the development of adequate methods of purification. Special problems are created by the close association of viruses with the cells they parasitize; it is not an easy matter to free virions of associated cell debris, or even from viral proteins synthesized in excess in the infected cell...

Physical Methods of Purification. After partial purification and concentration by chemical methods, or even without any preliminary treatment, virus particles can be separated from soluble contaminants by centrifugation...Equilibrium (isopycnic) [density] gradient centrifugation in dense solutes such as caesium chloride or potassium tartrate (or sucrose in the case of enveloped viruses of low density), on the other hand, separates virions from contaminants according to their buoyant density. After prolonged ultracentrifugation at very high gravitational forces the virions will come to rest in a sharp band in that part of the tube where the solution has the same density as the virions, usually within the range 1.15 – 1.4."

When we pointed out that the authors of the book support our claim, the prosecution submitted a paper entitled "Sequence-Based Identification of Microbial Pathogens: a Reconsideration of Koch's Postulates" as evidence that purification is not necessary, a virus can be proven to exist by genetic methods. Again, we pointed out in court, that according to the authors of this particular article: "...with only amplified sequence available, the biological role or even **existence** of these inferred micro-organisms remains unclear"¹¹ (emphasis ours). Ultimately, the prosecution "HIV" expert witnesses admitted that to identify the viral genome, RNA, (this is also the case for the viral proteins), the virus must be purified. Below is some of the evidence given by the prosecution experts:

Professor David Cooper: "Once the virus is purified, it's then genetically sequenced...." (T673)

Professor David Cooper is one of the best-known international “HIV”/AIDS experts. He is the Director of the National Centre in HIV Epidemiology and Clinical Research. He is chairman of the WHO/UN AIDS committee on “HIV”/AIDS vaccines; member of the strategy committee of WHO which assists member states in treatment and care and prevention of “HIV” disease; member of the UN AIDS Trial Management Committee at Petra study on perinatal “HIV” transmission in Africa; many other international studies and committees including president of the International AIDS Society from 1994 to 1998 and has about 500 publications on “HIV”/AIDS.

Professor David Gordon: "I'm not sure he did or didn't. [if Montagnier purified]. I mean it's highly likely that he attempted to separate out the virus to purify the virus because purification of virus is then very useful for further studies for the nature of the virus and the nature of the immune response against the virus." (T1032).

Further on: "It's a natural step from obtaining the virus in cell culture to then obtain purified virus". (T1034).

Professor David Gordon was one of the two "HIV" expert witnesses, the other was Professor Peter McDonald, who both testified at Andre Parenzee's original trial.

When Professor Dominic Dwyer was cross-examined regarding Montagnier's 1997 admission that he did not purify "HIV", the following exchange took place between him and Kevin Borick, the lawyer for the defence.

"Q. You accept that that's the first time, after 1983, that he admitted that he had not purified the virus.

A. I've got no idea if he has said that on any other occasion.

Q. It's a significant fact, don't you think.

A. No I don't think so because I'm not quite sure what was meant by the journalist and Montagnier when talking about purifying. If they want to go on and do further studies with the virus, yes like everybody else they would be purifying large amounts of virus and extracting protein and genetic material, doing the analyses and so on. He may not have purified that particular virus as described in his paper but that's because it wasn't required for the scientific evidence he was producing." (T1002)

(In 1983 Montagnier did not claim to have produced scientific evidence for the "HIV" genome. But he did claim "scientific evidence" for the existence of a new virus, "HIV" and for the "HIV" p24 protein and that he achieved this by purifying it. When in 1985 he claimed "scientific evidence" for the "HIV" genome, he did not have better evidence for purification than in his 1983 paper. Yet in his interview with Djamel Tahi, Montagnier admitted that to characterise the viral proteins, including p24, it is necessary to purify the virus).

Further on Professor Dwyer stated: "The general principles of what that textbook says are quite true. The purification, as far as one can go, is important in analysis of any virus or bacteria, for that matter as well." (T1199)

and: "Well, in the diagnostic sort of situation what that really is looking for is looking for presence of those conserved bits of genetic material that you know to be the pathogen, be it HIV or flu or whatever, you then use that technology to see whether those sequences or those bits are present in something else, in another clinical sample, for example. And that really now has become, you know, the main method of diagnosis of many many pathogens in a laboratory now...I mean with genetic testing – I guess the upside of course is you can do it on everybody, it's pretty cheap, it's extremely reliable and robust, the downside is that you have to know the genetic structure to begin with, you have to have the genetic sequence of what you are after. So when a new virus emerges, like SARS, you can't necessarily use, reliably, nucleic acid testing until you get the sequence of that new virus for the first time. So then in fact you are in a first identifier, you are required to use these more traditional methods of virus culture and microscopy and so on", that is, purification. (T963)

Professor Dwyer is a senior medical virologist in the Institute of Clinical Pathology and Medical Research based at the Westmead Hospital in Sydney which provides specialist "HIV" laboratory services for much of New South Wales on behalf of the state government. He worked with Montagnier at the Pasteur Institute and is one of his collaborators.

In his evidence Robert Gallo stated: "You have to purify". (T1257).

The "HIV" experts also accepted that for an RNA to be the genome of a unique retrovirus, in addition to coming from material which contains nothing else but particles which have the morphology of retroviruses, that is, purified particles, it must be the same RNA no matter from which "infected" culture or patient it originated. That is, the RNA must be a unique molecular entity.

Professor Cooper: "Once that virus is purified, it's then genetically sequenced and those sequences are unique, just like every organism on the planet has unique sequences and markers." (T673).

The prosecution witnesses claimed that the "HIV" nucleic acids are unique to this "virus" and cannot be found anywhere else. In our cross-examination we submitted evidence that this is not the case. This evidence included a paper published by Dr. Eva Rakowicz-Szulczynska *et al*, researchers from the USA, who showed that nucleic acid sequences similar to the "HIV" env and gag genes were found in 95% of breast and gynaecological cancer in women and prostate cancer in men.¹²⁻¹⁵ "The DNA fragments amplified in seven blindly selected breast cancer samples were sequenced. The breast cancer DNA sequences showed at least 90% homology to the HIV-1 gene for p41".

In their summary, which the Judge himself read to the court, the authors of the above studies concluded: "The results obtained strongly suggest that the long-postulated breast cancer virus may in fact be related to HIV-1".¹²

According to Professor Gordon the 10% difference in the nucleic acid sequences between the virus in breast, gynaecological and prostate cancer on the one hand and HIV-1 on the other, makes them two distinct retroviruses. "In particular, perhaps they might be 90% similar, which might sound quite a lot but in genetic terms that's very distinct. So the difference between you and me is one in one thousand of our nucleic acid bases is different, so 10% is enormous. The difference between humans and chimpanzees is probably one to two per cent".

Therefore the "HIV" experts admit that to prove the existence of proteins and genome of a new retrovirus, that is to prove the existence of a new retrovirus, it is absolutely necessary to obtain the proteins and the RNA from purified retrovirus-like particles and show that the RNA is a unique molecular entity. No such evidence exists in the "HIV" literature. Although they were asked, in the Andre Parenzee hearing, the "HIV" experts were not able to produce even suggestive evidence for "HIV" purification. Robert Gallo was the exception. Robert Gallo claimed that they "succeeded in mass producing the virus" (T1258) in a cell culture "thus making purification already accomplished" (T1278). However: (i) the only way to prove that the "HIV" particles are mass produced in a culture is by EM. No such pictures have ever been published. In fact, apparently Gallo's electron microscopist had problems finding any particles with the morphology of retroviruses; (ii) viruses are produced in cells. The only way to mass produce viruses is to have lots of cells. (Gallo started with "10⁶ cells per milliliter"); (iii) if as Gallo claims by mass production "you have got an enormous purification far beyond the sucrose gradient alone", then why did he call his 1.16g/ml band "purified" HIV and not the culture supernatant? Why, from the many proteins in the culture which reacted with antibodies in patient sera, did he claim that only p41 and p24 were "HIV" just because they banded at 1.16g/ml? Why, from all the poly(A)-RNAs which were in the culture, did he claim that only the poly(A)-RNA which banded at 1.16g/ml was the "HIV" genome?

To further questioning, Gallo responded "We succeeded in putting [HIV]...into permanent culture, meaning in a cell line, in a leukaemic cell that, itself, doesn't have virus particles, and the virus comes out in great quantity and forever, thus making purification already accomplished. But, of course, we also use banded virus by sucrose gradient which they make a case out of we never did. You don't publish that. Of course we did." (T1278) However:

- (1) the leukemic cell line Gallo used was H9 which is a clone of HUT-78. The HUT-78 cell line originated from a patient with adult T4-cell leukemia which according to Gallo is caused by his "other" retrovirus HTLV-I. In fact Gallo himself reported that the HUT-78 contained HTLV-I genomic sequences.¹⁶ In their interviews with Djamel Tahi, Montagnier stated that cell lines, like the H9, have "a real soup" of retroviruses. In turn Chermann stated "mass production means, for example, use the so called continuous cell lines, using lymphocytes immortalized by cancer inducing viruses, most frequently HTLV-I"
- (2) Gallo himself said that "HIV" is released by budding at the cellular membrane, a process which he claims causes holes in it and leads to death of the infected cell. This means that it is not possible for "HIV" to come out "in great quantity and forever" without killing the cell. In other words, the culture supernatant will contain cells, cellular debris, HTLV-I particles and thus cannot be considered purified "HIV".

It is true that Gallo performed sucrose density gradient centrifugation and he called the 1.16g/ml material "purified virus". But it is also true that he never published any EM pictures to prove his claim.

When Gallo was asked if Montagnier purified "HIV", he replied "He did a 116 cross gradient [1.16 sucrose gradient] in that paper, yes. I don't know if he said it was purified. If you do that you don't

have much virus.” (T1300) Montagnier did claim that the 1.16g/ml band was his purified “HIV” and that is how he proved he had a new virus. Gallo reviewed Montagnier’s paper and recommended its publication. If “you don’t have much virus” at the 1.16g/ml band, why did Gallo recommend the publication of Montagnier’s paper?

Regarding the necessity that RNA is a unique molecular entity, the “HIV” experts themselves pointed out that “HIV” genomes may vary not just by 10% but by up to 35%. That is, the prosecution experts admit that unlike “every organism on the planet [who] has unique sequences”, there are no “unique” “HIV” sequences.

Conclusion

The “HIV” experts including its “discoverers” Montagnier and Gallo, admit that to prove the existence of a new retrovirus it is absolutely necessary but not sufficient to have evidence:

- (1) for the existence of particles with unique morphological characteristics of retroviruses;
- (2) which proves isolation/purification of the retroviral particles.

After a quarter of a century of “HIV”, the experts cannot even agree as to what sub-family of retroviruses the “HIV” particles belong. In fact, not one single EM picture of the hypothetical “HIV” particles has all the characteristics of retroviruses. Although no effort has been spared and despite the many claims, 25 years after the “discovery” nobody has published an EM picture of purified “HIV” particles. The only EM pictures published for what is meant to represent “purified HIV” were published in 1997 by Bess *et al* and Gluschankof *et al*. Both groups admit that the vast majority of the material which is said to represent “purified HIV” is cellular microvesicles, that is, cellular debris. In fact the caption to the Gluschankof EM picture reads “purified microvesicles” instead of “purified HIV”. Both groups claimed that among the microvesicles were some particles which were “HIV”.

However:

- (1) no particle indicated as “HIV” had all the morphological characteristics of retroviruses;
- (2) the same proteins were found in both the material which is supposed to have “HIV” particles and thus unique proteins as well as the “mock virus”.

This is as good an evidence as one can get that nobody has:

- (1) proven the existence of the “HIV” particles;
- (2) purified the “HIV” particles;
- (3) proven the existence of “HIV” proteins and RNA.

In 1997 the Bess *et al* and Gluschankof *et al* teams were worried that the RNA and proteins “used for biochemical and serological analyses or as immunogens” originated from material whose purity has not “been verified”. Today, like in 1984 and 1997, we are still using PCR primers and antigens originating from a material in which there is no proof that it contains particles having the morphological characteristics of retroviruses, let alone purified particles, to test for a unique retrovirus “HIV”, whose existence nobody has proven.

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