

Scientific Misconduct and Fraud in the 1984 Gallo/Popovic HIV Paper

In May 1984, *Science* published an article by Drs. Mikulas Popovic, M.G. Sarngadharan, Elizabeth Read, and Robert C. Gallo titled “*Detection, Isolation, and Continuous Production of Cytopathic Retroviruses (HTLV-III) from Patients with AIDS and Pre-AIDS*”. This paper, the lead in a series of four published in the same time period, claimed that Gallo’s laboratory at the National Cancer Institute had isolated a retrovirus, named HTLV-III, and that it was the probable cause of AIDS. At the time, this announcement occurred amid a fierce international race to identify the cause of a seemingly devastating disease; previously, the Pasteur Institute’s French team led by Luc Montagnier had reported the discovery of a similar virus, LAV. Political prestige, control over patent rights to diagnostic kits, enormous financial incentives and the urgency of a public health crisis formed the backdrop to this international competition.

Drs. Gallo’s and Popovic’s claims were met with global acclaim but quickly became the subject of deep controversies. Investigations by the U.S. Office of Research Integrity (ORI), a Congressional Subcommittee chaired by Representative John Dingell, and multiple lawsuits would later raise allegations of serious scientific misconduct on Dr. Gallo’s behalf. These included suppression of laboratory evidence, falsification of data and conclusions, and misrepresentation of the origin of the viral samples used in his published research. Despite this, the 1984 *Science* paper has never been corrected or retracted. This fact provoked repeated calls from the scientific community for action to preserve the integrity of the scientific record.

The first such comprehensive call came on December 1, 2008, in a letter addressed to then-*Science* Editor-in-Chief Bruce Alberts and AAAS CEO Alan Leshner. This letter was signed by 37 experts in virology, molecular biology, oncology, infectious diseases, medical forensics, and other fields worldwide. In addition, the 37 signatories collectively represent an additional 2,897 medical and public health professionals, including three Nobel laureates aligned with the Group for the Scientific Reappraisal of HIV/AIDS. Quoting directly from the ORI’s own findings, the authors asked for the retraction of the Popovic-Gallo paper and its three companion articles, arguing that the work was “fraught with false and erroneous statements” and reflected “irresponsible laboratory management.” Their letter was prompted by newly analyzed evidence: an original typewritten draft of the paper prepared by Popovic containing handwritten revisions by Gallo.

The differences between Popovic’s draft and the article eventually published in *Science* are central to the legal allegations. Popovic’s original manuscript explicitly stated that the cultures used in the experiments came from the Pasteur Institute’s LAV virus. This admission was deleted by Gallo and thereby concealed the French origin of the samples. Even more strikingly, Popovic had written, “Despite intensive research efforts, the causative agent of AIDS has not yet been identified.” Gallo replaced this with the assertion that a retrovirus of the HTLV family “might be an etiologic agent of AIDS.” Gallo’s personal claim was diametrically opposite to the actual research’s conclusion. While Popovic’s cautious final conclusion merely suggested that the cultures could provide “the possibility for detailed studies,” the published final version recast the findings as supporting a strong causal claim.

The 2008 letter also presented additional documentation of data manipulation. One was a letter from Dr. Matthew Gonda, head of the NCI Electron Microscopy Lab, written four days before Gallo submitted his paper to *Science*. Gonda reported that the micrographs he was asked to

prepare did not depict HTLV-I, II, or III viral particles; rather, the images showed cellular debris or particles were of incorrect size. Nonetheless, these images were presented and published in *Science* as evidence for the existence of a HTLV-III. Another crucial document was a letter from Gallo written a day before submission, in which he acknowledged that fresh cells from AIDS patients rarely expressed the virus without cell culture. This raises a high likelihood that the observed particles were laboratory artifacts rather than naturally occurring pathogens.

The conclusion of the 2008 petition was unequivocal: Gallo's alterations to Popovic's manuscript constituted concealment of key experimental realities and misrepresentation of results. The authors considered Gallo's acts as scientific fraud, and further argued that the four *Science* papers have catastrophically misled research efforts and should be removed from the scientific record to prevent further distortion of the scientific literature.

On April 29, 2024, a follow-up letter was sent to the current editors of *Science*. This new communication noted that the 2008 request had gone unanswered and reiterated the call for a retraction of the Popovic-Gallo paper and its related articles. It emphasized that Gallo's claim that HTLV-III was derived from an American AIDS patient was "patently false," a fact confirmed by later investigations showing that the virus was genetically identical to the French LAV strain. The letter also highlighted the political theater surrounding the discovery: eleven days before publication, U.S. Health Secretary Margaret Heckler announced that a retrovirus found in Gallo's lab was the probable cause of AIDS. This announcement preempted independent scientific review and, according to the letter's authors, helped cement a false narrative.

The 2024 letter also recounted Gallo's later admissions. In 1991, in a letter to *Nature*, he publicly acknowledged that the virus came from the Pasteur Institute, which collapsed the earlier claim of an American origin. In another *Nature* letter, he conceded that the methods used by his lab to identify HTLV-III were inaccurate. The authors place these revelations in the broader historical context of legal disputes, beginning with the Pasteur Institute's 1985 lawsuit accusing Gallo of misappropriating viral samples, suppressing laboratory data, and misrepresenting the scientific data and evidence. Although the suit was settled with an agreement to split discovery credits and royalties, it left the veracity of the original claims unexamined.

The follow-up letter also revisited the role of John Crewdson's investigative report in 1989 *Chicago Tribune* exposé. The article spurred renewed ORI scrutiny. Crewdson's investigation confirmed that Gallo's paper contained false statements and reflected poor laboratory practices despite political pressure from within the Department of Health and Human Services leading to the charges being dropped. A subsequent French legal action revived the allegations of data manipulation, suppression of evidence, unethical practices, and disputes over patent rights and public recognition.

In 1994, the Dingell Subcommittee hearings provided perhaps the clearest evidence of misconduct when Popovic's original draft, complete with Gallo's handwritten edits, was submitted for Congressional scrutiny. These edits had removed credit to the French discoverers of LAV. Gallo had attributed to Dr. Adi Gazdau for providing the cells used in viral culture deleted. More egregious, Gallo had erased the explicit acknowledgment that the cause of AIDS had not been determined. The letter also criticized Gallo's refusal to share his cell lines with other scientists, which is a characteristic strategy to effectively prevent independent researchers and entities the opportunity to replicate of his results.

The 2024 letter to *Science* argues that the Popovic-Gallo paper’s status as a scientific “sensation” was due entirely to Gallo’s unsubstantiated edits and erroneous claims. Without his personal edits, the paper would have been unremarkable and unlikely to influence the scientific community so profoundly. Given the accumulated evidence, including admissions by Gallo, damning ORI reports, and court findings, there are no longer any uncertainties about the paper’s inaccuracy and the ethical breaches Gallo and Popovic committed.

Original Popovic Draft	Published Gallo Paper	Nature of Change
“Despite intensive research efforts, the causative agent of AIDS has not yet been identified.”	“That a retrovirus of the HTLV family might be an etiologic agent of AIDS was suggested by the findings.”	Complete reversal of scientific conclusion; changes from stating no cause identified to suggesting probable viral cause.
Explicit acknowledgement that the virus used in key experiments was LAV from Pasteur Institute.	All references to the use of LAV removed; virus presented as HTLV-III from Gallo’s laboratory.	Concealment of viral origin; removes credit to French researchers.
Dr. Gonda electron microscope report: “do not contain HTLV-I, II or II”; describes a sample as cellular debris and another with no particles near retrovirus size.	Science paper includes micrographs attributed to Gonda; describes them unequivocally as HTLV-III viral particles.	Falsification of presenting non-retroviral images as retroviral evidence.
Credit given to Dr. Adi Gazdau for the cells used to grow the virus.	Overall conclusion: the culture produced “provides the possibility for detailed studies” and makes no causal claim.	Removal of collaborator acknowledgement.
Overall conclusion: the culture “provides the possibility for detailed studies” and makes no causal claim.	Conclusion reframed to suggest evidence supporting HTLV-III as probable cause of AIDS.	Inflation of significance; shifts from causal language to causal implication.

In moral terms, *Science*’s continued refusal to retract the paper has perpetuated a falsehood in the historical and scientific record. This refusal has undermined trust in scientific publishing and allowed flawed, likely fraudulent research to stand uncorrected. They warned that if the journal did not act, they would appeal to Congress to initiate a new investigation conducted by independent scientists free of ties to the journal or federal health agencies.

Taken together, the 2008 and 2024 letters constitute a sustained, evidence-backed demand for retraction of one of the most influential papers in the history of AIDS research. Gallo’s scientific fraud and misconduct, according to the petitioners, were compounded by political and institutional complicity that was driven by the pressures of an international scientific race, public health urgency, and the lure of lucrative patent rights.

The original 1984 paper itself describes the isolation of retroviruses from AIDS patients, their morphological and biochemical characterization, and their suggested role in AIDS causation. Although the paper’s methodology is detailed, it presents its conclusions in a way that implies causality that is unsupported by Popovic’s own findings. The persistence of this version

in the scientific record is a dangerous precedent that compromises the accountability of leading scientific journals.

In the end, these letters are more than retraction requests; they are a challenge to the scientific community to confront the uncomfortable intersection of science, politics, and profit.