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P.O. Box B, Frederick, Maryland 21701

October 3, 1983

Dr. Mika Popovic  
Laboratory of Tumor Cell Biology  
National Cancer Institute  
Building 37, Room 6B22  
National Institutes of Health  
Bethesda, Maryland 20205

Dear Mika:

We have examined the frozen virus preparation that you are using for infecting human cord cells. The virus sample was high-speed pelleted and embedded for thin-section electron microscopy analysis. This approach versus negative staining was warranted as it is more definite when dealing with unknowns. We were able to identify a virus particle (80-140 nm in diameter) that morphologically resembles viruses in the genus, Lentivirus, a subgroup of the retrovirus family.

Members of this genus include visna (bovine and ovine), maedi, progressive pneumonia, and equine infectious anemia viruses. They are RNA virus that have a reverse transcriptase and cause syncytia in infected cells. The disease patterns of these viruses are outlined in the two reprints enclosed with this letter. After having seen the slides of the french isolate where virus particles were seen budding over the whole cell membrane of a multinucleate cell at the August AIDS task force meeting, I suspected Lentiviruses as the agent. However, to my knowledge, there are no known human isolates. Their ultrastructure is quite distinct from type C or HTLV particles. In fact, several immature particles were seen in the virus pellet similar to what was presented in the Science article on the isolate. It would be good to see the budding process in infected cells to confirm this observation. Rather than describe all the characteristics of the particles found, I suggest you compare the photographs to the two reprints on the ultrastructure of Lentiviruses, one of which was a detailed report that I authored. You may keep this reprint. I would appreciate it if you would return the original paper by Boothe and Vander Maaten to me as this is part of my library file. There is also a paper by Charman et al. describing some of the biochemistry of these viruses. You may keep this article.

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I hope this was informative for you, its my best association. If you are able to infect human cells with the virus (which represents very little of the sample you sent, <0.01%), I would like to look at the morphogenesis of the virus in cell culture.

Sincerely,

*Matthew A. Gonda*

Matthew A. Gonda, Ph.D.  
Head, Electron Microscopy Laboratory

Enclosures

cc: Dr. R.V. Gilden ✓  
Dr. R.C. Gallo