Case study argumentative essay

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Reverse transcriptase is a protein brought into the cell by the virus its job is to take the RNA and convert it into DNA to make genetic information that the host cell can read and recreate copies of the RNA virus only in DNA form b. A virus basically consists of a protein capsule with nucleic acid inside which could be made of DNA or RNA (DNA is what we use for genetic material)

A retrovirus is different from other viruses because of how they function in replicating its genetic materials retrovirus is made of single strand of RNA and need reverse transcriptase to take RNA to DNA. answers. yahoo. com) C In order to infect a cell a retrovirus has to recognize and bind to a specific protein like a lock in key mechanism allowing the virus to dock and its lipid membrane either fuses with the human cell’s membrane or the virus is brought in by endocytosis and the contents of the virus are released inside the cell then the retrovirus uses reverse transcriptase to takes its RNA and make it into DNA this newly made DNA is integrated into the genome of the human cell.

The human cell uses all 9 genes as it would its own, now producing all the proteins and RNA needed to make more virus particles 2. a. T cell is a type of lymphocyte or white blood cell involved in the functions of the immune system. B. killer T cells or cytotoxic T lymphocytes recognize human cells that have already been infected by virus their job is to kill infected cells Helper T cells are organizing centers of the immune system they tell the other Tcells and B cells what to do without them the Tcells and B cells do not work very effectively.

Killer Tcells job is to kills viruses and Helper T cells jobs is to be the immune systems boss and tell the killer T cells and B cells what to do. D. Molecularly killer T cells are different because of protein CD8 on outer surface of cell and Helper T cells have a protein CD4 on their outer surface. 3. A Helper T cells are targeted by HIV on the surface of HIV particle is protein gp120 this protein binds lock and key to the surface protein CD4 on Helper T cells.

B the other cells are not targeted by HIV because they don’t have the CD4 protein in which the HIV particles bind to and enter the cell by the lock and key. C The killer T cells should kill he infected cells if some Helper T cells are still functioning to tell them what to do. D over time cytotoxic cells stop responding to HIV because all the Helper T cells end up infected and no longer telling the killer T cells and B cells what to do and the killer T ell cells no longer recognize HIV as foreign since its now in all cells not just some . e after the immune system is HIV infected it works hard to fight off the HIV however it’s not able to kill all the HIV and helper T cells that are to coordinate the defense against the virus become virus factories which if activated produce more copies of the virus instead of starting the production of more antibodies against H. (http://www. thebody. com/h/what-happens-when-the-immune-system-is-weakened-by-hiv-infection. html).

There is a delay between HIV infection and AIDS because our body responds to HIV with the production of more T cells some mature to become helper T cells virus eventually targets and infects tem too and eventually HIV targets and infects tem too and they died the body continues to fight and make more T cells however over time the body is not able to produce T cells the loss of helper T cells results in body not being able to ward off weakest of

organisms (all kinds of bacteria and viruses other than HIV) which are normally not an issue for us.

This acquired condition of immunodeficiency is called, AIDS (http://people. u. edu/~jbrown/hiv. html) F HIV evades the immune system HIV is gp120 this protein recognizes and binds to a protein on the surface of Helper T cells CD4 once virus is docked its lipid membrane fuses with the human cell or HIV is brought into cell during endocytosis. A some people might be protected from HIV because HLA (Human Leukocyte Antigen) if a person has HLA his cells will be especially good at displaying pieces of HIV in binding groove that enables killer T cells to target and kill infected cells before they become virus factories.