Dna vaccination essay

| Help build the future of Wikipedia and its sister projects! Read a letter from Jimmy Wales and Michael Snow. | [Hide] [Help us with translations!] | DNA vaccine What is antisense technology? Antisense refers to opposing the normal order (“ sense”) of the code in DNA. The DNA (deoxyribonucleic acid) in genes directs cells to assemble the proteins which comprise living creatures.

The order of bases in DNA corresponds to the ordering of amino acids to form the proteins. To produce protein, the DNA of the genes in cells is first transcribed into a very similar molecule called RNA.

RNA can move out of the cell’s nucleus, where the genes have to stay. In the surrounding cytoplasm, proteins are put together according to the RNA’s sequence of bases, matching the DNA instructions.

Antisense molecules prevent the protein assembly machinery from seeing the genetic instructions on how to order the amino acids. If scientists make a molecule that complements the sequence of bases in the RNA, it will stick to the RNA. The antisense molecule, bound to RNA, will prevent the RNA from making protein.

Just as two complementary pieces of Velcro stick together, hiding their loops, the antisense molecules bind to RNA and hide its instructions. Thus, antisense stops the synthesis of the protein coded for by the targeted RNA.

In effect antisense has turned off the specific gene, or DNA, that was coding for that protein The three-dimensional structure of the original ribozyme, the self-splicing intron of Tetrahymena (13). Green and blue ribbons indicate the

path of the RNA backbone in the two major domains of the RNA, and the red star marks the active site. The making of a DNA vaccine