Michael A. Bratt, Chair Richard E. Baker Paul Dobner Jon D. Goguen Allan Jacobson Duane D. Jenness Trudy G. Morrison Carel Mulder David C. Parker Anthony R. Poteete Janet Stavnezer Donald J. Tipper Michael R. Volkert Raymond M. Welsh Robert T. Woodland

William F. Raub Acting Director National Institutes of Health Room 126, Building 1 9000 Rockville Pike Bethesda, Maryland 20892

March 17, 1990

Dear Mr. Raub:

I am writing to tell you what a bad Idea I think the human genome project is. In a period of severe budget restraint at the National Institutes of Health, it is foolish to invest three billion dollars (or more) to sequence the entire human genome. Most of the genome (about 95%) doesn't encode proteins and is junk as far as we can tell. Sequencing the genome is not an efficient way to understand human disease. As examples, understanding the genes involved in cancer and cholesterol metabolism was achieved without the human genome project. The two successes of the DNA mapping approach, discovery of the genes responsible of cystic fibrosis and muscular dystrophy, did not require detailed sequence information. It would be better to target diseases using a better human genetic map than to sequence tremendous amounts of DNA hoping to recognize a medically important locus.

A much better use of this money would be to increase the number of RO1 grants. One thousand RO1's could be funded from the 200 million dollars per year that is targeted for this project. The best science is funded by RO1 grants because they are subjected to a critical review by peers on the basis of scientific merit, and areas the government wants targeted do receive more money. The human genome project involves doing drudgery type of science and thus will require the hiring of many technicians, because students and postdocs will not want to do it. Students and post-docs want to do interesting work, where a question is being asked. RO1's support

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graduate students and postdoctoral fellows, who will become the scientists of the future. Because it is so difficult to get grants many young people do not want to enter science. The future of U.S. biomedical research depends upon vigorous training programs and thus it is bad science policy to fund large numbers of technicians rather than university laboratories. I do not know any scientists who think the human genome project is a good idea. (In fact, we know that if we can get ourselves named a Center for anything, money is easy even if the science isn't too good! However, it often takes politicking, which is abhorent to some of us and others of us feel we don't have the time or means to succeed at it.)

In short, the human genome project is a waste of national resources and is detrimental to the training of young scientists.

Yours truly,

Janet Stavnezer, Ph.D.

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Associate Professor