Interferon at MIT, the fight against cancer

By Stuart Cantor

Recently, much public attention has been focused on a possible wonder drug for cancer victims called "interferon".

One of the reasons for the excitement over interferon, commonly called IF, is that techniques have been developed enabling interferon to be produced on a mass scale and at a reasonable price. This technique has been developed here at MIT in the Department of Nutrition and Food Science.

Interferon is a naturally-occurring substance produced by virus-infected cells. The interferon is then transmitted to neighboring cells which produce antiviral proteins to prevent the virus from reproducing and sticking other cells.

Interferon was first discovered in 1957 by virologists Alick Isaacs and Jean Lindenmann in London; but one of the major reasons for it not becoming a commonly used drug is the inability to mass-produce it. Many studies have been done on cancer victims, and the results were favorable, yet there was very little interferon to work with. According to Prof. Bill Thilly of the Department of Nutrition and Food Science, interferon had to be extracted from cells which were not easy to produce in mass quantities.

In the past, cells would be cultured on the inside of bottles, which was labor-intensive to cause cells to adhere to the sides. Anthony van Wezel developed an alternate method in the last decade for growing cells on tiny microcarriers in a dilute solution.

When microcarriers were first developed, the cells could not stay alive long enough to be useful. Since September, 1973, a group at MIT has refined the process of microcarriers so they could efficiently cultivate survival cells. The group of four—David Levine, Bill Thilly, Daniel I.C. Wang, and Jason S. Wong—had worked on this project for about two years.

Having overcome the drawbacks of microcarriers, MIT has patented the process in the U.S. and several foreign countries; one of the major companies to invest in this process is Flow Laboratories, currently one of the major manufacturers of interferon.

According to Thilly, the efficient production of interferon is not going to give present cancer victims an immediate cure. Thilly is not overly optimistic about interferon because the samples used for experimentation on cancerous tissue was only about point one percent pure, so the results might have been due to any number of the impurities. Nevertheless, it has been proven that interferon does fight against viral infections, and its anti-viral effects seem to be quite conclusive.

Research for using interferon against cancer is still very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glaser, director of the Cell Culture Center and Robert Fleischaker are very active at MIT. Donald J. Glase