The 41st Albert Lasker medical research awards, announced this week, went to three AIDS researchers, two of whose competing discoveries have resulted in a patent dispute; two former co-workers who discovered growth factors; and to a New York-born man of Lebanese descent who was once the head doctor of Mao's Red Army.

In the clinical research category, Luc Montagnier of the Pasteur Institute in Paris, Robert Gallo of the National Cancer Institute and Myron Essex of Harvard University shared the honors for their AIDS research. Rita Levi-Montalcini of the Institute of Cell Biology in Rome and Stanley Cohen of Vanderbilt University in Nashville won the basic research award. And the public service award went to Ma Haide, born George Haratem, of Beijing. Each gets $15,000.

Montagnier was cited "for his discovery of the retrovirus responsible for causing AIDS." He detected reverse transcriptase in material from a patient with an AIDS-like condition. The enzyme is unique to a class of viruses known as retroviruses. He figured such a virus was at work, and began his search.

Gallo was honored for "his investigations of human T-cell lymphotropic retroviruses and his intellectual leadership in research into AIDS." Gallo established that viruses, specifically retroviruses, can cause human cancer, a finding that earned him a Lasker in 1982. He also isolated interleukin-2, an immune-system growth factor. Gallo is most noted for his AIDS work.

As a result of the viral isolation work by Montagnier and Gallo, French and U.S. companies have developed blood tests to detect antibodies to the virus. The U.S. government holds a patent for the test design; that patent is being contested by the Pasteur Institute.

Essex, who often collaborates with Gallo, initially worked on a retrovirus that causes feline leukemia. He has since done landmark work on the biology of retroviruses, determining that the AIDS virus is a retrovirus and that a similar virus exists in African green monkeys. This virus has been suggested as the original source of human AIDS.

Levi-Montalcini and Cohen share an award for their work on growth factors. Levi-Montalcini's early research was done in a makeshift laboratory in her native Italy. As a Jew, she was dismissed from a university appointment in 1939; she did her later research at home, and later in hiding.

After the war she remained in Italy as a doctor for refugees, and then went to Washington University in St. Louis, where she collaborated with Stanley Cohen on a nerve growth factor. Cohen isolated the factor, following up on work by her and others in which a particular tumor implanted in a chick embryo stimulated the development of nerve cells. He later isolated an epidermal growth factor.

Ma Haide left the United States for China in 1933 to treat venereal disease in prostitutes, then joined the Red Army to become its head doctor. When the People's Republic was formed, he began a massive campaign to wipe out venereal disease, closing brothels and administering penicillin. He has been credited with nearly wiping out venereal disease in China, and is currently working on leprosy eradication programs.

For the past two years, the Laskers have been upstaged by the Nobel Prize in medicine or physiology: Each year the Lasker committee has made its decision in late summer to be announced in November, and each October the Karolinska Institute has given Nobels to several of the yet-to-be-announced Lasker recipients. This year the Lasker announcement was moved up, and whether the Karolinska Institute will view it as foreshadowing remains to be seen.

—J. Silberner

Top row, from left: Luc Montagnier, Robert Gallo, Myron Essex, Stanley Cohen. At far left, Rita Levi-Montalcini, Ma Haide.