

BIOCHEMISTRY

New Pituitary Hormone

"Lipotropin," a new pituitary hormone with powerful fat-releasing properties has been isolated from glands of sheep by University of California scientists.

► A NEW PITUITARY hormone with powerful fat-releasing properties has been found by a team of University of California scientists.

The new chemical has been named "lipotropin."

It was first isolated from the tiny pituitary glands of sheep and has since been found in the glands of cattle.

Still unknown is whether the lipotropin may be produced in the human pituitary gland, which is situated at the base of the brain, or whether the chemical derived from animals may have any effect on human processes.

A scarcity of human pituitaries for research may delay some of the answers.

The discovery was made in the Hormone Research Laboratory, which is on the University's Berkeley campus and is associated with the University's School of Medicine in San Francisco.

Participants were Dr. C. H. Li, director of the laboratory and professor of biochemistry and experimental endocrinology, and Dr. Yehudith Birk, visiting scientist from the Hebrew University in Jerusalem, Israel. Dr. Li told of the discovery in an invited lecture at the Rockefeller Institute in New York.

The achievement is an important advance in scientific technique, for lipotropin is the first hormone to be isolated and studied chemically before its biological effects were studied.

Drs. Li and Birk happened onto lipotropin while developing a technique for isolating another pituitary hormone from sheep.

A series of chemical studies showed the new substance to be chemically distinct from known hormones, although its general properties were clearly those of a hormone.

After the chemical analysis, the Berkeley group applied a variety of procedures to learn about the biological effects of lipotropin.

Most pronounced was the fat-releasing or lipolytic activity, explained as a chemical process by which the body changes solid stored fats into liquid forms for use as energy sources.

Dr. Li said that lipotropin also showed slight adrenal-stimulating and lactogenic properties.

The hormone research is supported by grants from the U.S. Public Health Service and the Albert and Mary Lasker Foundation.

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Case Institute of Technology

MUSCLE STUDY—The tiny FM transmitter implanted in the leg muscles of a rabbit is shown above the mercury cell battery (white area in the center of the X-ray photograph) that powers the transmitter. The electrical activity of the leg muscles of the animal during movement are recorded by the transmitter.

BIOTECHNOLOGY

Tiny Radios Activate Paralyzed Muscles

► FM TRANSMITTERS smaller than an aspirin tablet are being implanted in experimental animals to broadcast the normal electrical activity of the muscles, heart, and respiratory system.

The use of these transmitters and similar implanted receivers to activate groups of body muscles in paralyzed humans is being studied as part of a major research effort at Case Institute of Technology, Cleveland, aimed at enabling persons to regain the use of body functions.

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MEDICINE

Past-65 Health Plan Will Reduce Professional Fees

► A PAST-65 PLAN for reduced professional fees for older citizens offers a way to close the gap between those who are on welfare and those who can take care of themselves financially.

The St. Louis (Mo.) County Medical Society first started the plan, reported in the Journal of the American Medical Association, 187:801, 1964, by the Seattle-King County (Wash.) Health Care Commission.

The plan is a part of an overall community group health program described in detail by Dr. James W. Haviland of Seattle. About 600 persons over 65 years of age in the Seattle community have been screened with 85% qualifying for reduced fees. The County Medical Society cooperates.

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PUBLIC HEALTH

Athletes Against Smoking

► PITCHER WHITEY FORD and other leading athletes have joined the American Cancer Society's campaign to educate teenagers on the harmful effects of cigarette smoking.

High school age youths have been the focus of television, radio and advertising statements by athletes, the Society's annual report for 1963 points out. A TV film, "Athletes Against Cancer," features basketball star Bob Cousy, Bob Mathias, twice Olympic Decathlon champion, and football hero Bart Starr also are helping in the campaign.

More than seven million copies of the leaflet "Shall I Smoke?" have been distributed to teen-agers since 1960 by the Society, which also has distributed some 28,000 filmstrips "To Smoke or Not to Smoke."

More than half of the nation's 30,000 secondary schools have now been reached with this film.

Youngsters are beginning to smoke at an earlier age, surveys show, and on this account, the Society for the first time distributed a filmstrip and educational material to elementary school pupils.

Cancer took the lives of more school children and more young mothers last year than any other disease, and for the past ten years it has been the chief disease causing death in women from 15 to 54 years of age.

An encouraging part of the report notes that death from cancer of the uterus has dropped 50% in one generation.

The "Pap" smear test of the late Dr. George N. Papanicolaou, promoted widely by the Society, contributed largely to this improvement.

Among the Society's research projects for last year were:

1. Pioneering studies on cancer diagnosis, including the culmination of a five-year study of lung cancer detection.

2. Research on Enovid, the hormone preparation also used for birth control, which might be a cancer preventive.

3. Sponsorship of worldwide conferences and initiation of new training fellowships.

Although some 280,000 Americans died of cancer last year, the report emphasizes that more than 1,200,000 persons cured of cancer are alive today.

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