



**INSULIN ASSAY**—Dr. Munever Yennergmen, endocrinologist at the National Institute of Arthritis and Metabolic Diseases, National Institutes of Health, Bethesda, Md., making an assay of insulin level in a mouse.

## BIOCHEMISTRY

## Pills Protect From Rays

Scientists are busy looking for chemicals that will protect body from damaging radiation, although exact method by which the death blow is dealt is not known.

► **PILLS WHICH** will protect people against the deadly radiation of A-bombs are in the works for the future, experts in radiation have indicated.

Already a substance called cysteine protects mice against a lethal dose of X-rays. Dr. Harvey M. Patt of the Argonne National Laboratories, Chicago, said that, while it is not yet proved for any other species, including man, if he knew an A-bomb attack was imminent, he would swallow about two ounces of cysteine, a salty, bitter tasting substance.

Other scientists attending the radiation session of the American Physiological Society meeting in Chicago looked to other substances to give mass protection. Drs. Leonard J. Cole, Maurice C. Fishler and Victor P. Bond of the Naval Radiological Defense Laboratory, San Francisco, have found, pretty definitely, that the nucleus of cells of mouse spleen will protect other mice from deadly doses of radiation.

Their studies came out of a scientific argument over just what in spleens protects against radiation. It has been known for

some time that the spleen had an important part in this protection. Some scientists believed that the live cells in the spleen were the factor. Others thought that certain chemicals which made up the spleen cells might do the job.

Dr. Cole and his associates divided the different parts of the cell from each other by homogenizing mouse spleen. They got material which they believed was essentially free of living cells. They found that protection was associated with the nucleus and not with the whole living cell. Other studies at the University of Chicago and at the National Institutes of Health, Bethesda, Md., tend to indicate that it is not living cells which provide the protection, the scientists said.

Even before mass protection is possible, scientists said, protection for those working around atomic power plants might work. For instance, Dr. Patt said, crews of atomic powered airplanes might not need so much shielding when an effective substance is developed. This would make it easier to get an A-powered plane off the ground.

Despite confidence in a future protective substance, the scientists still do not know how radiation deals its death blow. Huge doses of radiation, far above the lethal amount, seem to show that a poisonous substance is released in the body, Drs. Howard L. Andrews and Kirkland C. Brace of the National Institutes of Health told the meeting. The general opinion was that different things happened, depending on the kind of dose of radiation given, the manner of exposure and the time factor.

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## BIOCHEMISTRY

## Fat in Diet Protects From Radiation Damage

► A SVELTE figure in the atomic age is out.

Scientists have discovered that fat in the diet is a protection against atomic bomb radiation. Salad and cooking oils, margarine, mayonnaise and lard contain essential fatty acids which kept laboratory rats alive, even when they were subjected to critical doses of X-rays similar to those given off by an atomic blast.

The conclusion is that the people of the western world, who eat much more of the fat-containing foods than do those behind the Iron Curtain, are better protected against an A-bomb attack. People of the Orient do not eat foods containing such great amounts of fat.

Drs. Harry J. Deuel, Jr., dean of the University of Southern California Graduate School, and Amber L. S. Cheng, graduate student from China, tested 5,000 rats over a three-year period to discover the role of fatty acids in protection against radiation. They reported their results to the American Institute of Nutrition meeting in Chicago.

They also discovered that nothing, including the greatest amounts of mayonnaise on salads, would protect against fatal doses of X-rays given to the rats. This meant to the experimenters that only those far enough away to survive the concussion of the A-bomb would benefit from having had fat in their diet.

Dr. Deuel said that this does not mean that a person must be fat or overweight. However, he must have essential fatty acids in his diet.

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## BIOCHEMISTRY

## Chemical Helps Fight A-Bomb Burst Effects

► **VICTIMS OF** radiation from an A-bomb explosion may find protection against two major hazards—tendency to bleed and increased susceptibility to infection—with a chemical compound called protamine sulfate.

This combination of a protein and a salt of sulfuric acid at least works on rabbits which have been subjected to large doses