"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEISEL, M.N.

MEISEL', M.N.; POMOSHCHNIKOVA, N.A.

Excretory and restorative function of yeast cell. Trudy Inst. microbiol. no.2:51-63 '52. (MLRA 5:12)

(YEASTS,
excretory & restorative funct. of yeast cell)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEDVEDEVA, G.A.; MEYSEL, M.N.; SHEKHTMAN, Ya.L.

Application of singledose high intensity irradiation of short duration in the study of dynamics of radiological effect. Zh. obsh. biol., Moskva 13 no. 3:243-245 May-June 1952. (CLML 22:4)

1. Laboratory of Radiation and Isotopes of the Division of Biological Sciences of the Academy of Sciences USSR and the Institute of Microbiology of the Academy of Sciences USSR.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.M.;POMOSHCHNIKOVA, N.A.

[redacted]

Simple microbiologic method of determination of vitamin B_6. Biokhimiia, Moskva 17 no.5:593-597 Sept-Oct 1952. (CLML 25:1)

1. Institute of Microbiology of the Academy of Sciences USSR, Moscow.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.;SHIFRIN, D.M.

Effect of massive doses of roentgen rays on Amoeba. Zh. obsh. biol., Moskva 14 no.2:167-169 Mar-Apr 1953. (CIML 24:3)

1. Laboratory of the Biophysics of Radiation and Isotopes of the Division of Biological Sciences of the Academy of Sciences USSR.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M. N. Jul/Aug. 53

USSR/Biology - Nutrient Media, Animo-Acids

"A New Microbiological Method For the Determination of Tryptophan," M. N. Meysel', N.P. Trofimova, Inst Microbiol, Acad Sci USSR, Moscow

Mikrobiol, Vol 22, No 4, pp 385-390

Developed a new strain, Saccharomyces cerevisiae T-1, which requires biotin, panthotenic acid, and tryptophan (or indole). Proposed selective elimination of tryptophan by destruction with ultraviolet light. Developed a new method for the quantitative determination of tryptophan by measuring the growth of a standard culture of yeast.

67T5

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N., doktor biologicheskikh nauk.

Luminescence microscopy. Vest.AN SSSR 23 no.10:3-10 O '53. (MLRA 6:11)
(Microscope and microscopy)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.; GUTKINA, A.V.; PAVLOVSKIY, Ye.N., akademik.

Application of luminiscence microscopy for early detection of pathological modifications in tissues and organs. Dokl.AN SSSR 91 no.3:647-650 Jl '53. (MLRA 6:7)

1. Institut mikrobiologii Akademii nauk SSSR (for Meysel' and Gutkina). 2. Nauchno-issledovatel'skiy institut ukha, gorla i nosa Ministerstva zdravookhraneniya RSFSR (for Meysel' and Gutkina). 3. Akademiya nauk SSSR (for Pavlovskiy). (Fluorescence microscopy) (Histology)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M.N.

Chem Abs
v.48 25 Jan 54

Biological Chem

Use of radioisotopes for accelerated microbiological assay of vitamins. M. N. Meisel and N. A. Fomenichenkova. *Doklady Akad. Nauk S.S.S.R.* 91, 903-5(1953).—The time requirement for vitamin detn. can be cut to 4-6 hrs. by the use of radioisotopes. Thus introduction of P^{32} into growing yeast culture permits a rapid detn. of rate of yeast growth as affected by such substances as pantothenic acid or pyridoxine. Typical calibration curves are shown.
G. M. Kosolapoff

aeromed (2)
M Phys 4
1

8-19-54
RMT

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.

"Fluorescence microscopy." V.M.Bergol'ts. Reviewed by M.N.Meisel'. Zhur.ob.biol. 15 no.6:468-470 N-D '54. (MLRA 8:5)
(BERGOL'TS, V.M.)
(FLUORESCENCE MICROSCOPY)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MAYSEL', M.N., doktor biologicheskikh nauk.

Obtaining riboflavin (vitamin B_2) by a microbiological method. Vest.AN SSSR 24 no.3:62-63 Mr '54. (MLRA 7:3)
(Vitamins)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

Meysel', M. N.

USSR/Biology - Biochemistry

Card 1/1 : Pub. 22 - 35/44

Authors : Gal'tsova, R. D.; Meysel', M. N.; and Seliverstova, L. A.

Title : Change in sterol metabolism of yeast organisms under effect of x-rays

Periodical : Dokl. AN SSSR 98/6, 1013-1016, October 21, 1954

Abstract : The change in sterol metabolism under the effect of x-rays was investigated on a pure culture of yeast organisms Saccharomyces cerevisiae and the results obtained are tabulated. Three USSR references (1938-1945). Tables.

Institution : Academy of Sciences USSR, Institute of Microbiology

Presented by: Academician V. A. Engel'gardt, July 17, 1954

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N. Doctor of Biological Sciences

"Luminescent-microscopic research of the functional conditions of microscopic research of the Functional Conditions of Microorganisms"

Report given at jubilee held on June 20-21, 1955 in honor of 25th anniversary of foundation of Inst. of Microbiology, AS USSR

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M. N.

USSR/Microbiology. General Microbiology. F-1

Abs Jour : Ref. Zhur-Biologiya, No 1, 1957, 496

Author : M. N. Meysel
Inst :
Title : On the Biological Effect of Ionizing Radiation

Orig Pub : V sb.; Deystviye oblucheniya na organizm. M., Izd-vo AN-SSSR, 1955, 78-111

Abstract : The morphological, physiological, and biochemical changes in fermenting organisms caused by radiation with roentgen rays were studied. Parallel with the structural and biochemical changes, modifications of the functions of the microorganisms took place. It was found that in the cells of the microorganisms structures and biochemical systems exist which are either

Card 1/4

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

USSR/Microbiology. General Microbiology F-1

Abs Jour : Ref. Zhur-Biologiya, No 1, 1957, 496

Abstract : more sensitive or less sensitive to radiation. One of themore sensitive to radiation elements of the metabolism of the microbic cell is nucleic metabolism with the desoxyribonucleic system reacting to radiation with greater intensity than the ribonucleic system. Easily effected by radiation are also certain elements of carbohydrate metabolism with the result that an accumulation of sterines in the irradialed cells can be observed. The main elements of the cytochromic system are highly resistant to the action of irradiation. Thus, enzyme systems which are even connected with one or another of the cellular structures (chondriosoma)

Card 2/4

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

USSR/Microbiology. General Microbiology F-1

Abs Jour : Ref. Zhur-Biologiya, No 1, 1957, 496

Abstract : are not equally damaged by irradiation. In the irradiated cells the connection between respiration (and fermentation) on one hand and difficult phosphorilization on the other hand is disturbed. A part of the energy of respiration and fermentation is expended wastefully and is not utilized by the irradiated cell. This expenditure increases with the increase of the doses of radiation. Considerably greater resistance to radiation appears in the process of the absorption of sulfates, methionine, and thiamine. Greatest sensitivity to radiation is displayed by the function of fission; somewhat more resistant is the function of

Card 3/4

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

USSR/Microbiology. General Microbiology F-1

Abs Jour : Ref. Zhur-Biologiya, No 1, 1957, 446

Abstract : growth, and highly resistant are respiration and fermentation. In a progeny of irradiated cells, changes in nitrogen and phosphorus metabolism are found, and considerable adiposity and accumulation of sterines are noted.

Card 4/4

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.

"Use of Isotopes in Microbiology," edited by A. A. Imshenetskiy, Corresponding Member, Academy of Medical Sciences USSR, Moscow, Publishing House of the Academy of Sciences USSR, 1955, 239 pp

Sum 1467

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M. N., REMEZOVA, T. S., CALTSOVA, R. D., MEDVEDEVA, C. A., POMOSHNIKOVA, N. A., and SELIVERTSOVA, Z. A.

"On Biological Effect of Ionizing Radiations on Microorganisms," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M N

[illegible]

and complete inactivation requires 4-5 million r. doses of x-radiation with the yeast specimens used here. It is felt that for practical purposes a dosage of 1.5-2 million r. would [illegible]

G. M. Kosolapoff

(b)

AEC [illegible]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M. N.; RAUTENSHTEYN, Ya. I.

Anniversary of Academician Vladimir Aleksandrovich Engel'gardt. Mikrobiologiia 24 no.1:118-119 Ja-F '55. (MIRA 8:4)

(BIOGRAPHIES,
Engel'gardt, Vladimir A.)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

KRISS, A.Ye; KRASIL'NIKOV, N.A.; MEYSEL', M.N.

Morozova-Vodianitskaia, Nina Vasil'evna, 1893-1955. Mikrobiologiia 24 no.2:258 Mr-Ap '55. (MLRA 8:7)
(OBITUARIES,
Morozova-Vodianitskaia, Nina V.)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

IMSHENETSKIY, A; KASHKIN, P.; KONOKOTINA, A.; KRASIL'NIKOV, N.; KRISS, A.: KUDRYAVTSE, V.; LITVINOV, M.; MEYSEL', M.; RAUTENSHTEYN, Ya.

Aleksandra Alekseevna Bachinskaia; obituary. Mikrobiologiia 24 no.5:650-651 S-O '55. (MLRA 9:1)
(BACHINSKAIA, ALEKSANDRA ALEKSEEVNA, 1878-1955)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

3.

19

3038. Early changes in bone marrow and blood of irradiated animals, as shown by fluorescence microscopy. M. N. Meisel and V. A. Sondak *Dokl. Akad. Nauk, S.S.S.R.*, 1955, 105, 1221—1224; *Referat. Zh. biol. Khim.*, 1958, Abstr. No. 21345.—Acridine Orange was injected into the blood of mice and rats before and after X-irradiation and after 2 hr the bone marrow was studied under the fluorescent microscope, the fluorescence being induced by blue light. In the controls the cell nuclei of the bone marrow took up the dye only feebly and fluoresced with a dull green light. In the irradiated animals (doses of 100—500 R) there were as a rule small cell clusters with intense bright green fluorescence. Such a fluorescence can be obtained by treating smears of bone marrow with the dye without preliminary injection into the blood. This is dependent on denaturative changes in the nucleoproteids, and is shown if the dye is mixed with Acid Fuchsin and Congo Red. By treating a smear of bone marrow with Acridine Orange with Acid Fuchsin (without Congo Red) a bright red fluorescence is obtained, depending on the changes in ribonucleic metabolism of the cells. Changes in fluorescence of the peripheral blood after irradiation are also described (Russian)

T. R. PARSONS

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M. A.

"Scientific and Practical Problems Connected With Sterilization and Pasteurization by Radiation," by M. A. Meysel', Doctor of Biological Sciences, and N. D. Chernyayev, Candidate of Technical Sciences, Vestnik Akademii Nauk SSSR, No 11, Nov 56, pp 38-45

Radiation effects on microorganisms were studied for their theoretical value in providing information on the mechanism of the effects of radiation on simple organisms, such as microorganisms, and for the practical value of this problem since it is the basis for sterilization and pasteurization procedures.

The Institute of Microbiology, the Institute of Biophysics of the Academy of Sciences USSR, the All-Union Scientific Research Institute for Canning and Drying of Vegetables, and a number of other institutes are working on the problem of sterilization and pasteurization by radiation. Efforts are concentrated on: (1) explaining the mechanism of the injury and death of microorganisms and of other organisms under the effect of various types of radiation and by various methods; (2) studying the changes taking place in the products being sterilized and finding methods for eliminating these changes; (3) determining the harmlessness, nutritive value, and therapeutic effect of the products and of medical preparations sterilized by powerful radiation; (4) constructing rational apparatus for sterilization by radiation; and (5) developing methods for calculating doses of radiation required for sterilization.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

Several r.e.p. values are quoted for specific items of food and drugs. Practical interest in sterilization by radiation on an industrial scale lies in the use of synthetic radioactive isotopes such as cobalt-60, cesium-137, and tantalum-182, which possess sufficient specific activity from gamma rays and have a long half-life. In addition, there is the field of solutions of radioactive isotopes.

The author concludes by saying that all these peaceful uses of radiation as applied to biology, medicine, and the food industry, require rational organization of work, centralized planning of projects and methods used in a definite field, coordination of the efforts of various institutions and their departments, and the equipping of the appropriate institutes with up-to-date sources of powerful radiations which are adapted to treating significant amounts of materials. (U)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

To ensure complete sterilization from bacterial and spore contamination, and to decrease the ill effect that radiation has on milk, meat, vitamins, especially vitamin B_{12}, vegetables, etc., arising because of radiolysis of water, it is recommended that these products be sterilized in frozen condition, in a box containing some protective or stabilizing agents. Radiation can be successfully used to sterilize medical instruments, and drugs such as antibiotics, protein preparations, anticoagulants, hormones, etc. It may also be used in surgical operations, which heal quite rapidly after their sterilization by radiation.

As for pasteurization by radiation, in most cases it is necessary only to check bacterial multiplication or to retard it, therefore the roentgen equivalent physical (r.e.p.) is in the range of thousands instead of millions as the case is for sterilization of products.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.; FRANK, G.M.

Conference on microscopy. Biofizika 1 no.2:183-188 '56.(MLRA 9:9)
(MICROSCOPY)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MASSEL M.N

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M N

Influence of ultrasonic waves on steroid content of yeast. M. N. Meisel, R. D. Gal'tsova, I. F. Ekipmer and [illegible] Vakina. *Zhur. Obshchei Biol.* 17, No. 4, [illegible] 1956. In yeast cells subjected to ultrasonic radiation the ergosterol increases by 35-60%. This occurs in acid or alk. medium. Ultraviolet, x-rays, or increase in temp. have no such effect. In contrast to x-rays, ultrasonic waves have no effect on the ergosterol content of yeast cells which, after irradiation, were permitted to grow. The effect of ultrasonic waves on ergosterol which is isolated from yeast is due to mech. or physicochem. changes within the cells induced by the ultrasonic vibration. J. A. S.

Inst. Microbiol. & Inst. Biological Physics. Acad. Sci. USSR.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

KEYSEL', M.N., professor.

Radioisotopes in microbiology. Nauka i zhizn' 23 no.4:27-29 Ap '56.
(Microbiology) (Radioisotopes) (MLRA 9:7)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M.N.

2

3293

SCIENTIFIC AND PRACTICAL PROBLEMS OF RADIATION. M. N. Meisel and N. D. Chernyaev. Vestnik Akad. Nauk S.S.S.R. 26: 38-45(1956) Nov. (In Russian)

A review. (R.V.J.)

Med

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

Country : USSR F
Category : Microbiology, Physiology and Biochemistry.

Abs. Jour : Ref Zhur-Biol., No 23, 1958, No 103577

Author : Sokurova, Ye. N., Meysel, M. N.
Institut. : --
Title : Combined Effect of Ultra Violet and X-Rays on Bac. anthracoides Spores

Orig Pub. : Biofizika, 1957, 2, No 4, 483-486

Abstract : The combined effect of ultra violet (wave length = 2537 A) and of X-Rays on the survival rate of B. anthracoides spores in water proved to be much greater than the effect from each type of radiation individually and than the sum of the separate radiation effects. Here, it makes no difference which of the types of radiation used, ultra violet or X-Ray, is used on the spores first.--Ye. N. S.

Card: 1/1

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.

MEYSEL', M.N.; KABANOVA, Ye.A.; LEVINA, Ye.N.; PISHCHURINA, M.M.

Fluorescent antibodies and their use in cytology and microbiology. Izv. AN SSSR. Ser.biol. no.6:718-732 N-D '57. (MIRA 10:12)

1. Institut epidemiologii i mikrobiologii imeni Gamaleya AMN SSSR, Institut mikrobiologii AN SSSR i Institutbiofiziki AN SSSR.
(ANTIGENS AND ANTIBODIES) (FLUORESCENCE MICROSCOPY)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.

Development of optical microscopy in the Soviet Union. Mikrobiologiia 26 no.6:696-709 N-D '57. (MIRA 11:3)
(MICROSCOPY,
optic in Russia, review (Rus)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.; POMOSHCHNIKOVA, N.A.; SOKOLOVA, T.S.

Radiation resistance of cells as affected by blocking intracellular structures. Dokl. AN SSSR 117 no.1:142-145 N-D '57. (MIRA 11:3)

1. Institut mikrobiologii AN SSSR. Predstavleno akademikom V.N. Shaposhnikovym.
(YEAST) (PLANTS, EFFECT OF RADIOACTIVITY ON)
(CELL METABOLISM)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M. N. and Mirolyubova, L. V.

"Nucleoprotein Structures of the Microbe Cells as Revealed by Fluorescent Microscopy."

report submitted for the International Congress for Microbiology, Stockholm, Sweden, 4-9 Aug 1958.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, Maksim N.

"Fluorescence Microscopy Study of Early Changes Induced in the Tissues and Organs of Irradiated Animals."

Report presented at the Intl. Congress on Radiation Research, Burlington, Vermont, 10-16 Aug 1958.

Abstract of Paper - in dossier.

Inst. of Microbology, Acad. Sci. USSR, Moscow.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, N. N., GALTSOVA, R. D., MEDVEDEVA, G. A., POMOSHNIKOVA, N. A., SELIVERSTOVA, L. A. and SHALNOVA, M. N.

"Action of Ionizing Radiations and Radiomimetic Substances on Microbe Cell," paper to be presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sep 58.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M.N.

STEPANENKO, B.N., prof., otvetstvennyy red.; MEYSEL', M.N., prof., otvetstvennyy red.; KOVAL'SKIY, V.V., prof., otvetstvennyy red.; BAYEV, A.A., kand.biol.nauk, red.; MEDVEDEVA, G.A, kand.biol. nauk, red.; TURPAYEV, T.M., kand.biol.nauk, redaktor; PASHKOVSKIY, Yu.A., redaktor izd-va; PRUSAKOVA, T.A., tekhn. red.

[Study of the animal organism; Fish culture; Food industry; proceedings of a conference] Izuchenie zhivotnogo organizma, Rybnoe khoziaistvo, Pishchevaia promyshlennost'; trudy konverentsii. Moskva, Izd-vo Akad. nauk SSSR, 1958. 263 p. (MIRA 11:5)

1. Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i izlucheniy v narodnom khozyaystve i nauke, 1957.
(Radioactive tracers)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

AUTHOR: Meysel, M. N., Doctor of Biological Sciences 30-58-3-17/45

TITLE: Congress on the Biology of Cells
(Kongress po biologii kletki)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 3, pp. 80-83
(USSR)

ABSTRACT: The 9th International Congress took place in Sent-Endryus (Scotland). 380 scientists from 30 countries among which were also the USSR, Poland, Hungary and Czechoslovakia, attended this congress. The Soviet delegates were treated very attentively and all their reports were admitted, even those which were not announced previously. The municipal cinema was especially rented for the performance of the Soviet color-picture: "Biological Action of Radiations on Micro-Organisms". 172 reports were delivered altogether during the period of the congress (from August 28th to September 3rd 1957) which - with a few exceptions - were characterized by a high theoretical and methodical level. The Soviet delegates delivered the following reports:

Card 1/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

Congress on the Biology of Cells

30-58-3-17/45

1) V. G. Konarev: "On the Participation of Nucleic Acids in the Ontogenesis of a Plant Cell."
2) P. A. Utkin: "On the Interphase and Mitosis of Tissus Cells."
3) B. L. Astaurov: "On Diploid and Polyploid Parthenogenesis caused by high Temperature in 2 Species of Silkworms and their Hybrids."
4) M. N. Meysel': "On the Effect of Radiations on a Cell."
5) A. N. Studitskiy: "On the Rules Governing Muscular Regeneration."

A paper (Poland) projected a film with pictures from mitosis. The author further states that the foreign works in the field of cytology cyptophysiology and cytochemistry were very extensive and distinguished by a high methodical and technical level. Electron-microscopy and ultra-thin sections are largely applied, in which case the enlargement in steadily increased. Both the interference-microscopy and the micro-auto-radiography are introduced to a great extent. Highly sensitive counters for measuring the radioactivity, as well as a spectro-photometric, densitometric- and absorption-devices are used. Concluding, the

Card 2/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

author states that modern cytology represents one of the leading fields of biology that it develops rapidly and shows great scientific and practical possibilities. Greater attention should also be paid to this problem in the Soviet Union.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

KUZIN, A.M.; BAKH, N.A.; MEYSEL', M.N.; POBEDINSKIY, M.N.; PETROV, V.A.

Work at the International Congress on Radiological Research. (MIRA 12:1)
Biofizika 3 no.6:746-754 '58.
(BURLINGTON, VT.--RADIOLOGY--CONGRESSES)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL' M.N.

Fluorescence microscopic investigations of the functional state of micro-organisms. Trudy Inst. mikrobiol. no.5:51-62 '58 (MIRA 11:6)

1. Institut mikrobiologii AN SSSR.
(MICRO-ORGANISMS,
luminescence microscopy, review (Rus))

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL' M.N.

30-58-5-14/36

In the Department of Biological Sciences
Vest. Ak Nauk SSSR, No. 5, p. 60-62, 1958

of national economics. In his closing speech V. A. Engel'gardt Member, Academy of Sciences, USSR agreed to the remarks made by the speakers of the discussion. The plenary assembly elected a new composition of the office. Beside the Secretary V.A. Engel'-gardt, Member, Academy of Sciences, USSR whose powers have not yet expired the following persons were elected: The Members, Academy of Sciences, USSR, A. L. Kursanov, Ye. N. Pavlovskiy, V. N. Sukachev, and I. V. Tyurin, as well as the Corresponding Members, Academy of Sciences, USSR E. A. Asratyan, P. A. Baranov, V. A. Kovda, Yu. A. Orlov, A. N. Svetovidov, S.Ye. Severin, G. K.Khrushchev, V. N. Chernigovskiy. The following lectures were heard: M. N. Meysel' on new directions in the fluorescence-microscopic investigation of cells, tissues and organs. B. P. Ushakov on the problem of the adaptation of the cells of cold-blooded animals to raised temperatures. M.N. Livanov on the investigation of higher nervous activity by the new electro-physiological method. M. A. Peshkov on the use of the perfected an-optral microscope in microbiology and protistology. I. S. Beri-tashvili, Member, Academy of Sciences, USSR showed a popular scientific film on the investigation of the part played by the cerebral cortex of the cerebrum and cerebellum in the spatial orientation of animals.

Card [redacted]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.; KABANOVA, Ye.A.; LEVINA, Ye.N.; STRAKHOVA, V.A.

Some new possibilities of using fluorescence microscopy in microbiology. Izv. AN SSSR. Ser. biol. no.5:533-543 S-O '58. (MIRA 11:10)

1. Institut mikrobiologii AN SSSR, Institut epidemiologii i mikrobiologii imeni N.F. Gamaleya AMN SSSR i Rublevskaya ordena Lenina vodoprovodnaya stantsiya Mosvodoprovoda.
(FLUORESCENCE MICROSCOPY) (MICROBIOLOGICAL RESEARCH)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL M N

BRUMBERG, Ye.M.; MEYSEL', M.N.; BARSKIY, I.Ya.; BUKHMAN, M.P.

Experiment in ultraviolet fluorescence microscopy of biological objects [with summary in English]. Zhur.ob.biol. 19 no.2:99-107 Mr-Ap '58. (MIRA 11:3)

1. Gosudarstvennyy opticheskiy institut im. S.I.Vavilova, Institut biofiziki AN SSSR i Botanicheskiy institut im. V.L.Komarova AN SSSR. (FLUORESCENCE MICROSCOPY) (ULTRAVIOLET RAYS)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N., GUTKINA, A.V., MASTYUKOVA, Yu.N.

Fluorescence microscopic detection of viruses; 20th anniversary of fluorescence virusoscopy. Mikrobiologiia 27 no.4:513-519 Jl-Ag '58

1. Institut mikrobiologii AN SSSR i Kafedra virusologii TSentral'nogo instituta usivershenstvovaniya vrachey, Moskva.
(VIRUSES,
demonstration by luminescent microscopy (Rus))

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.

20-1-21/58

AUTHOR: Gal'tsova, R. D., Meysel', M. N.

TITLE: The Effect of Ionizing Radiation Upon Amination, Desamination and Transamination Processes (Deystviye ioniziruyushchikh izlucheniy na protsessy aminirovaniya, dezaminirovaniya i pereaminirovaniya)

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 1, pp. 75-77 (USSR)

ABSTRACT: The authors made a special investigation of the processes of the amination of ketonic acids as well as of the desamination and transamination of amino-acids with the yeast cells, of the Saccharomyces cerevisiae after their irradiation with x-ray dosages of from 30 to 100 kiloroentgen. The yeast was investigated either immediately after irradiation or after from 24 to 48 hours growth. The amination of α ketonic acids was investigated by means of the method of M. Neber (ref. 6). The transamination of amino acids was investigated by means of the method of Braunshteyn and Kritsman (ref. 7). The experiments of the authors showed the following: immediately after the irradiation of yeast with a dosage of 60 kiloroentgen the transamination of amino-acids is only little disturbed. Only after 16-hours growth

Card 1/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

20-1-21/58

The Effect of Ionizing Radiation Upon Amination, Desamination and Transamination Processes

it decreases by 20% and after 48 hours by 70-80%. With strong dosages of irradiation (100 kiloroentgen and more) the intensity of the transamination processes of amino-acids also reduces immediately after irradiation by about 50%. The desamination of amino-acids in the test samples as well as in the irradiated yeast samples were determined by means of the method of Neber (ref. 6). The desamination with irradiated cells immediately after irradiation differs only little or not at all from the reactions of the test samples. But with a further growth of the irradiated cells the desamination increases already after 16 hours (compared with the desamination in not-irradiated samples) 2-3fold and after 48 hours even more. Of the processes investigated here the amination of ketonic acids is most sensitive against irradiation. The changes in the carbon exchange of the irradiated yeast cells and its partial shift to the synthesis of fats and lipoides correlates well as regards time and quantity with the suppression of the amination process and less well with the suppression of transamination. The irradiation, in some respect, leads to the same consequences as does a lack of nitrogen in organism.

Card 2/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

20-1-21/58

The Effect of Ionizing Radiation Upon Amination, Desamination and Transamination Processes

There are 3 tables, and 8 references, 5 of which are Slavic.

ASSOTIATION: Institute for Microbiology AN USSR (Institut mikrobiologii Akademii nauk SSSR)

PRESENTED: July 15, 1957, by V. N. Shaposhnikov, Academician

SUBMITTED: July 5, 1957

AVAILABLE: Library of Congress

Card 3/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

Meyerson, M. N.

21(4); 17(0) PHASE I BOOK EXPLOITATION SOV/2808

International Conference on the Peaceful Uses of Atomic Energy. 2d, Geneva, 1958

Doklady sovetskikh uchenykh; radiobiologiya i radiatsionnaya meditsina (Reports of Soviet Scientists; Radiobiology and Radiation Medicine) Moscow, Izd-vo Glav. upr. po ispol'zovaniyu atomnoy energii pri Sovete Ministrov SSSR, 1959. 429 p. 8,000 copies printed. (Series: Vtoraya Mezhdunarodnaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii. Trudy, tom 5)

General Ed.: A.V. Lebedinskiy, Corresponding Member, USSR Academy of Medical Sciences; Ed.: L.S. Shirokova; Tech. Ed.: Ye.I. Mazel'.

PURPOSE: This book is intended for physicians, scientists, and engineers as well as for professors and students at vtuzes where radiobiology and radiation medicine are taught.

COVERAGE: This is Volume 5 of a 6-volume set of reports delivered by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy, held on September 1-13, 1958, in Geneva. Volume 5 contains 32 reports edited by Candidates of Medical Sciences S.V. Levitskiy and V.V. Sedov. The reports cover problems of the biological effects of ionizing radiation, future consequences of radiation in small doses, genetic effects of radiation, treatment of radiation sickness, uses of radioactive isotopes in medical and biological research, uses of atomic energy for diagnostic and therapeutic purposes, soil absorption of uranium fission products, their intake by plants, and their storage in plants and foodstuffs. References accompany each report.

Reports of Soviet Scientists (Cont.) SOV/2808

Angin, I.P. The Acetylating Function of the Coenzyme A System in Radiation Sickness (Report No. 2259) 160

Bezpal', N.E., E.D. Gal'tsova, G.A. Medvedeva, N.A. Pomoshchnikova, L.A. Ashkarova, and N.N. Shal'nova. Effect of Ionizing Radiation and of Radioactive Substances on the Microbe Cell (Report No. 2520) 167

Klimovskaya, S.N., and V.V. Shikhodyrov. Local Tests to Show the State of Hypersensitization and Autosensitization of an Irradiated Organism (Report No. 2073) 180

Bogdanov, A.A., F.S. Vinograd-Piskal', M.O. Ramazanbekh, N.P. Bogoyavlenskaya, N.V. Bodrov, B.P. Belyayeva, G.M. Abdullayev, and N.Ya. Lagutina. Experience in Treating Radiation Sickness With Leukocyte and Thrombocyte Substance (Report No. 2256) 188

Ivanova, A.S., and I.B. Keirim-Markus. Experiments to Determine Maximum Permissible Thermal Neutron Flux (Report No. 2078) 195

Gandzenko, P.E., and T.I. Ivanenko. Isotopic Method in Studying the Hormone Effect on Metabolism in Osseous Tissue (Report No. 2072) 205

Card 4/7

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M.

The German Academy of Sciences in Berlin (East Germany) held a Research Colloquium at the Inst. of Medicine & Biology in Nov. 1958. Among the Soviet papers presented were

Meysel, M. "Die Wirkung der ionisierenden Strahlen auf Mikroorganismen."

Emanuel, N.M. Inst. Chemical Physics, AS USSR "Über Probleme der Krebsentstehung."

Demikhov, V. P., Head Lab. of Transplantation of Organs, Chair of Operative Surgery, 1st Moscow Medical Inst. "Die Transplantation von Herz, Lungen, Nieren und Anderen Organen der vergleichender Sicht."

SO: Das Deutsche Gesundheitswesen, 24 Sept. 1959, Incl.

3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

ODINTSOVA, Yekaterina Nikolayevna; MEYSEL', M.N., prof., doktor biolog. nauk, otv.red.; RAUTENSHTEYN, Ya.I., red.izd-va; POLYAKOVA, T.V., tekhn.red.

[Microbiological methods of determining vitamins] Mikrobiologicheskie metody opredeleniia vitaminov. Moskva, Izd-vo Akad. nauk SSSR, 1959. 378 p. (MIRA 12:4)
(VITAMINS)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.

Structural physiology of the bacterial cell. Trudy Inst. mikrobiol. no. 6:13-19 '59. (MIRA 13:10)

1. Institut mikrobiologii AN SSSR.
(BACTERIA)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M.N.; MIROLYUBOVA, L.V.

Comparative fluorescence investigation of bacterial structure. Izv. AN SSSR. Ser.biol. 24 no.6:865-878 N-D '59. (MIRA 13:4)

1. Institute of Epidemiology and Microbiology, Academy of Medical Sciences of the U.S.S.R., Moscow, and Institute of Microbiology, Academy of Sciences of the U.S.S.R., Moscow.
(FLUORESCENCE MICROSCOPY) (BACTERIA)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.; KABANOVA, Ye.A.; LEVINA, Ye.N.; STRAKHOVA, V.A.

Fluorescent microagglutination of bacteria. Zhur.mikrobiol.epid. i immun. 30 no.2:45-50 F '59. (MIRA 12:3)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR i Instituta mikrobiologii AN SSSR.

(SHIGELLA,
luminescent micro-agglut. (Rus))
(AGGLUTINATION,
luminescent micro-agglut. of Shigella (Rus))

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.; KABANOVA, Ye.A.; LEVINA, Ye.N.; STRAKHOVA, V.A.

A rapid fluorescence method for the identification of pathogenic bacteria of the enteric group. Zhur.mikrobiol.,epid.i immun. 30 no.12:3-6 D '59. (MIRA 13:5)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei, instituta mikrobiologii AN SSSR i Rublevskoy ordena Lenina vodoprovodnoy stantsii.
(BACTERIA)
(MICROSCOPY)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

17(2) SOV/20-125-1-56/67

AUTHORS: Meysel', M. N., Kabanova, Ye. A.

TITLE: Luminescence-serological Detection of Colonies of Bacteria of the Intestinal Group (Lyuminestsentno-serologicheskoye raspoznavaniye koloniy bakteriy kishechnoy gruppy)

PERIODICAL: Doklady Akademii nauk SSSR 1959, Vol 125 Nr 1 pp 205-207 (USSR)

ABSTRACT: The possibility of detecting very young (5-6 hours old) colonies of Escherichia coli by means of luminescence was shown in reference 4. For this purpose the back wall of the membrane filter was treated with a fluorescent color (fluorochroming) acridine-orange. The colonies of bacteria remain alive. Under a luminescence lens or a microscope they can be taken away with a capillary pipet for the purpose of a re-sowing. Under certain conditions it is possible to differentiate the young bacteria of the intestinal group. In 8-9 hours old colonies the authors (together with Ye. N. Levina) found differences between the colonies of the dysentery bacteria and the E. coli which however cannot be regarded as completely reliable. The method mentioned opened the way towards the finding of early stages of phagolysis of the colonies (Ref 3). Luminescent sera have

Card 1/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

SOV/20-128-5-5/6

Luminescence serological Detection of Colonies of Bacteria of the Intestinal Group

In recent times been successfully used for the discovery of the antigen or the antibodies in virology, microbiology, immunology and cytology. In the present paper the authors attempted to use the luminescent sera for the serological identification of young colonies of bacteria. For this purpose globulins fractions of the dysentery and Coli OB-serum were produced (by means of immunization of rabbits with a toxiger strain of the bacillus C_4). From the results the authors draw the following conclusions: 1) A direct fluorochroming of young 6 hours old colonies of bacteria on membrane filters facilitates a rapid detection and quantitative determination of these colonies. It must, however, be admitted that this way of identification is only in individual cases successful and achieved only with difficulty. 2) The luminescence-serological method as suggested by the authors means a further step towards the improvement of identification of such colonies. 3) An important characteristic of this method is the fact that the bacteria remain alive and can be further used. 4) The dysentery bacterium by Flexner and the toxic strains of E. coli facilitated a rapid and reliable

Card 2/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

Luminescence-serological Detection of Colonies of Bacteria of the Intestinal Group SOV/20-125-1-56/67

identification of very young colonies. It is quite obvious that the mentioned method will find a wide field of application. There are 6 references, 3 of which are Soviet

ASSOCIATION: Institut epidemiologii i mikrobiologii im. N. F. Gamaleya Akademii meditsinskikh nauk SSSR (Institute of Epidemiology and Microbiology imeni N. F. Gamaley of the Academy of Medical Sciences, USSR) i Institut mikrobiologii Akademii nauk SSSR (Institute of Microbiology of the Academy of Sciences, USSR)

PRESENTED: November 3, 1958, by V. N. Shaposhnikov, Academician

SUBMITTED: October 28, 1958

Card 3/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

PHASE I BOOK EXPLOITATION SOV/4973

Soveshchaniye po lyuminestsentsii, 8th, 1959

Metody lyuminestsentnogo analiza, materialy soveshchaniya (Methods for Luminescence Analysis, Materials of the 8th Conference) Minsk, Izd-vo AN SSSR, 1960. 147 p. 1,000 copies printed.

Sponsoring Agency: Akademiya nauk Belorusskoy SSR. Institut fiziki.

General Ed.: N. A. Borisevich; Ed.: L. Timofeyev; Tech. Ed.: N. Siderko.

PURPOSE: This collection of articles is intended for chemists and physicists interested in molecular luminescence, and for scientific personnel concerned with applications of this and related phenomena in research in the life sciences.

COVERAGE: The collection contains 28 papers read at the Eighth Conference on Luminescence, which took place 19-24 October, 1959 [place of conference not given]. These studies are concerned principally with the development of new luminescence methods for quantitative and qualitative chemical analysis, and with the applications of luminescence in medical and biological research. They discuss luminescence methods for the determination of uranium, mercury, magnesium, aluminum, boron, and other elements, as well as luminescence methods for the diagnosis of skin cancer and the detection of grippe virus, pathogenic microorganisms, etc. The structural design of new instruments for luminescence analysis is described. The conference was not concerned with studies on the phosphorescence of crystal phosphores. There is a discussion of the contributions of Soviet specialists in molecular luminescence in the course of the year and a half preceding the conference. The articles of V. K. Matveyev (p. 75) and of V. V. Patrikeyev (p. 79) have been annotated because of their importance. No personalities are mentioned. References accompany most of the articles.

Yudilevich, M. M. Luminescence Method and Device for the Analysis of Water-Oil Emulsions 87

Faydysh, A. N., L. Ye. Chechik, A. D. Chugay, and M. I. Przhebyl'skiy [TsZL Kiyevskogo zavoda "Krasnyy Rezinshchik," Kiyevskiy universitet (TsZL of the Kiyev Plant "Krasnyy Rezinshchik," Kiyev University)]. Luminescence Analysis of Rubbers 90

Berman, M. L. [Tashkentskiy nauchno-issledovatel'skiy institut kabel'noy promyshlennosti (Tashkent Scientific Research Institute of the Cable Industry)]. Investigation by the Luminescence Method of the Diffusion of Liquids in Rubbers 94

Provorov, V. N., and V. D. Zaytseva [Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh izdeliy (Scientific Research Institute of Rubber and Latex Products)]. Luminescence Properties of Ingredients and Rubbers Made From Natural Rubber 98

Brunberg, Ye. N., M. N. Meysel', and A. V. Outkina [Institut biologicheskoy fiziki AN SSSR (Institute of Biological Physics AS USSR)]. Luminescent Microscopy of Living Organs 103

Anestiadi, V. Kh. [Kishinevskiy gosudarstvennyy meditsinskiy institut (Kishinev State Medical Institute)]. Luminescence Microscopic Analysis of Skin Cancer 107

Kononenko, A. P., and K. M. Ischenko-Linnik. Study by the Luminescence Microscopy Method of the Morphology of Certain Sporogenous and Asporogenous Bacteria 111

Rubinshteyn, Ya. I. [Institut pitaniya AMN SSSR (Institute of Nutrition of the Academy of Medical Sciences of the USSR)]. Experimental Use of Luminescence Microscopy in Mycology 118

Card 8/10

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

Meysel, M.N.

reports to be submitted to the 1st Intl Congress of Histochemistry and Cytochemistry, Paris, France, 28 Aug-3 Sep '62.

BRODSKIY, V. Ya. - "The nucleic acids of the nerve cell's nucleus and cytoplasm"

DOMSKIEN, N. V., VINOGRADOV, V. V. and SUBBOTIN, N. Ya. - "Histochemistry of extraembryonic connective tissue in pathological conditions"

FRIDENSHTEYN, A. Ya. - "Some aspects of carbohydrate metabolism of the transitional epithelium"

GEORGIYEV, G. B. - "The studies on the cell nucleoproteins with the aid of phenol fractionation procedure"

GRIGOR'YEVA, T. A., MEYSEL', M. N., BRUMBERG, Ye. M., BARSKIY, I. Ya. and GUTKINA, A. V. - "Ultraviolet fluorescence microscopy as a new field of histochemistry"

KNYAZEVA, G. D. - "Histochemical characteristics of diphtheric polyneuritis"

KRASNOV, I. B. - "The determination of sulfhydryl groups of proteins by means of the inhibitory-indicator (bromoacetylnitrobenzoic acid) method"

MAFAROV, P. K. - "Cytochemical and autoradiographic analysis of the role of nucleic acids in the synthesis of cellular proteins"

ORLOVSKAYA, G. V. - "The evolution of the protein-polysaccharide composition of cardiac connective tissue in the development of rheumatic process"

POLENOV, A. L. - "Histochemical contribution to the study of di-encephalo-hypophyseal secretion"

PONTUGALOV, V. V. - "Some mechanisms controling the chemical activity of the neuron mitochondria" (A summary of this report has been received by the organizers of the Congress and is included in Group I)

Aspects of histochemistry and the nervous system (This is a proposed report of which the exact title is not yet known. It is listed by general subject matter under Group III)

PRESNOV, M. A. - "Histochemistry in experimental cancer chemotherapy"

ROBKIN, G. I. - "Comparative histochemistry of Neurons differing in their function"

SHABADASH, A. L. - "Presence of ribonucleoproteins in mitochondria of different animal cells and their functional importance" and "Cytochemical and cytophysical peculiarities of nerve tissues biological organization"

STRUKOV, A. I. - "Histochemical examinations of connecting tissues in the light of recent pathological studies"

TUSTANOVSKIY, A. A. - "A comparative physical and chemical characteristic of precollagen and collastromine"

VASIL'YEV, Yu. M. - "Histochemical studies of the connective tissue, changes observed in the source of development of induced sarcoma in rats"

ZBARSKIY, I. B. - "Proteinic and nucleic composition of nuclear structures"

ZBARSKIY, I. B. and PEREVOSHCHIKOVA, K. A. - "On the role of cell nucleus and its fractions in protein biosynthesis measured by the incorporation of labeled amino acids"

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

KHAN-MAGOMETOVA, Sh.D.; GUTKINA, A.V.; MEYSEL', M.N.; AGROSKIN, L.S.; KOROLEV, N.V.

Ultraviolet fluorescence of some animal organs and its change after irradiation. Biofizika 5 no. 4:446-449 '60. (MIRA 13:12)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(ULTRAVIOLET RAYS—PHYSIOLOGICAL EFFECT)
(X RAYS—PHYSIOLOGICAL EFFECT) (FLUORESCENCE)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M. N. (Moskva); POGLAZOVA, M. N. (Moskva)

Microbiological characteristics and problems of radiation sterilization of food products. Acta chimica Hung 23 no.1/4:529-523 '60. (EEAI 10:9)

1. Biokhimicheskiy institut Akademii nauk SSSR, Moskva.

(Radiation sterilization) (Food)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

LEVINA, Ye.N.; MEYSEL', M.N.

Luminescent detection of the lysis of a bacteria by phages. Zhur. mikrobiol.epid.i immun. 31 no.1:11-15 Ja '60. (MIRA 13:5)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR i Instituta mikrobiologii AN SSSR.
(BACTERIOLYSIS)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N., prof.

Light in the microscopic world. Zdorov'e 7 no.10:14-15 O '61. (MIRA 14:10)

1. Chlen-korrespondent AN SSSR.
(MICROSCOPE)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.; GUTKINA, A.V.

Fluorescence study of early radiation injuries in cells. Izv. AN SSSR. Ser. biol. 26 no.5:693-701 S-O '61. (MIRA 14:9)

1. Institute of Radiation and Physico-Chemical Biology and Institute of Biophysics, Academy of Sciences of the U.S.S.R., Moscow.

(X RAYS--PHYSIOLOGICAL EFFECT)
(FLUORESCENCE MICROSCOPY)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.; MEDVEDEVA, G.A.; ALEKSEYEVA, V.M.

Detection of live, injured and dead micro-organisms. Mikrobiologiia 30 no.5:855-62 S-O '61. (MIRA 14:12)

1. Institut mikrobiologii AN SSSR i Institut biofiziki AN SSSR.
(MICRO-ORGANISMS)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

S/020/61/141/003/016/021
B103/B110

AUTHORS: Brumberg, Ye. M., Meysel', M. N., Corresponding Member AS USSR, Barskiy, I. Ya., Zelenin, A. V., and Lyapunova, Ye. A.

TITLE: Ultraviolet luminescence of cells in mitotic division

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 3, 1961, 723 - 725

TEXT: Cells and tissues grown outside the organism were studied: (a) human: an inoculated descent of amnion cells; (b) cultures of embryonic epithelium; (c) of fibroblasts; (d) animal: primary cultures of the kidneys of guinea pigs and monkeys. Single tissue cultures were grown on quartz glass and examined by ultraviolet-luminescence microscopy either living (in physiological salt solution) or after fixing by methanol. The methods had been described previously (Ye. M. Brumberg et al., Biofizika, 6, No. 1, 114 (1961); Ye. M. Brumberg et al. Tsitologiya, 2, 589 (1960); Ye. M. Brumberg, Zhurn. obshch. biol. 27, No. 6,

Card 1/4

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

401 (1956)). Microphotographs showed that the cells undergoing mitosis differed from cells at rest in the following facts: The cells at rest weakly fluoresce; fluorescence increases already during the early prophase and reaches maximum intensity in the middle of the metaphase. Then, it slowly decreases; however, until complete separation of the daughter cells, it exceeds the fluorescence of the cells at rest undergoing interkinesis. The cell nucleus, unlike the total cytoplasm, does not fluoresce. Dark, not fluorescing chromosomes can be seen on the background of the cytoplasm. The absorption of shortwave ultraviolet rays (250-270 mμ) by the cells increases with rising intensity of fluorescence. Absorption and fluorescence patterns interrelated like a negative and a positive; in both images, however, the chromosomes remain dark. The fluorescence of cells at rest is not so constant as that of dividing cells. There are always individual groups of brightly fluorescing cells at rest. In most cases these are degenerating, perishing cells whose increasing fluorescence is not accompanied by increased ultraviolet absorption. Chromoscopic examination (Ye. M. Brumberg. DAN, 25, 473 (1939)) showed degenerating cells at rest and dividing cells are

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

differently colored. Selective extraction of nucleotides, nucleic acids, and lipoids with perchloric acid in the cold and at 90°C, and with ribonuclease showed that the ultraviolet fluorescence of dividing cells is not due to the action of these extracted substances, except the bone marrow, the fluorescence of which rapidly decreases after extraction of nucleotides. The character of fluorescence cannot be changed by strong oxidizers and reducing agents (rongalite, potassium permanganate). 2% of urea somewhat increases the fluorescence of cells at rest. It is concluded that the intensity of fluorescence of cells undergoing mitosis is increased by high-molecular substances (most probably proteins containing cyclic amino acids) which are difficult to extract from the cell. This increase is possibly related to a reversible denaturation of protein in various physiological processes (muscular work). This might not be an absolutely formal analogy, since the occurrence of contractile proteins in the cell during mitosis had previously been proved. These proteins effect the mechanical work of chromosome separation and cell division. The muscles differ from other tissues in their particularly strong ultraviolet fluorescence. It is less probable that cell fluorescence during division should be increased by low-molecular substances

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

which are produced in metabolic shifts or accumulated. This means that these shifts occur only in certain stages of mitosis (Refs. 8 and 9, see below), whereas an increase of fluorescence could be observed during all stages of division. Experiments will be continued. Ye. S. Zalmanzon is thanked for supplying the tissue cultures. There are 11 references: 7 Soviet and 4 non-Soviet. The three most recent references to English-language publications read as follows: Ref. 8: H. A. Went, Ann. N.Y. Acad. Sci., 90, Art. 2, 422 (1960); Ref. 9: D. Mazia, Sulfur in Proteins, R. Bensch et al. edit., N.Y., 1959; Ref. 10: J. Brachet, The Biochemistry of Development, London, 1960.

ASSOCIATION: Institut radiatsionnoy i fiziko-khimicheskoy biologii Akademii nauk SSSR (Institute of Radiation and Physico-chemical Biology of the Academy of Sciences USSR)
Institut tsitologii Akademii nauk SSSR (Institute of Cytology of the Academy of Sciences USSR)

SUBMITTED: August 28, 1961

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

8

MEYSEL, M.N., REMEZOVA, T.S., GALZOVA, R.D., MEDVEDEVA, G.A., POMOSHCHNIKOVA, N.A., SOKUROVA, YE.N., SELIVERSTOVA, L.A., POGLASOVA, M.N. and NOVICHKOVA, A.T.

"Cytophysiological and biochemical investigation of micro-organisms in the process of post-radiation reactivation."

Report submitted to the 2nd Intl. Congress of Radiation Research, Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.; MEDVEDEVA, G.A.; BIRYUZOVA, V.I.; VOLKOVA, T.M.

A comparative study of the microscopic and ultramicroscopic structure of cells of the yeasts Saccharomyces vini and Rhodotorula glutinis. Mikrobiologiia 31 no.6:1011-1017 N-D '62. (MIRA 16:3)

1. Institut mikrobiologii AN SSSR i Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR.
(YEAST) (CELLS)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

34757

S/020/62/142/003/025/027
B144/B101

27.1220

AUTHORS: Alekseyeva, V. M., and Meysel', M. N., Corresponding Member AS USSR

TITLE: Importance of intracellular fat reserves for cell reactivation after radiation injuries

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 3, 1962, 699-701

TEXT: Cell reactivation after ultraviolet and ionizing irradiations is dependent on 1) character of radiation injuries, 2) state of cell activity, and 3) cell structure and function. This paper is a detailed study of the third factor, particularly of the regulating effect of intracellular fat reserves. The variation of nutrient media by additions of saccharose and glycocoll to obtain yeast cells rich in fats and lipoids and the subsequent effect on oxidation processes and radioresistance in irradiated cells have been described previously (Biofizika, 3, no. 1, 101 (1958)). In the present tests, the total content of fats and lipoids determined in 48 hr cultures of Endomyces magnusii (EM) by extraction with sulfuric ether was 11.5% (dry weight) on a suitable nutrient medium as compared

Card 1/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

to 2.2% on unsuitable media. Cells were correspondingly termed as rich and poor in fat. 2% suspensions of both types were irradiated in a РУП1-М (RUP1-M) x-ray apparatus (210 kw, 15 ma, 3760 r/min, without filter). EM were irradiated with 150 and 250 kr and Saccharomyces vini with 100 kr. Cells and controls were subcultured in Petri dishes with agarized beer wort immediately after irradiation and kept 6 - 9 days at 28°C as 0.2 - 0.02% suspensions in sterile tap water with daily subculturing in wort agar dishes. Reactivation was judged from the percentage of colonies (colonies in nonirradiated controls = 100%). It has been found that EM cells rich in fat have much higher reactivation levels and radioresistances (Fig. 1). The state of the fat inclusions was studied in luminescent light in cells treated with aqueous solution of Nile blue. The intracellular fat proved to be utilized in the process of cell reactivation. The present studies confirm increased reactivation in cells rich in fats and prove that their reactivation level is much higher, particularly in the first 24 hr. There are 2 figures and 8 references: 6 Soviet and 2 non-Soviet. The reference to the English-language publication reads as follows: W. A. Pratt, W. S. Moos, M. Eden, J. Nat. Cancer Inst., 15, 4, 1039 (1955).

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

Importance of intracellular fat... S/020/62/142/003/025/027
B144/B101

ASSOCIATION: Institut mikrobiologii Akademii nauk SSSR (Institute of Microbiology of the Academy of Sciences USSR). Institut biologicheskoy fiziki Akademii nauk SSSR (Institute of Biophysics of the Academy of Sciences USSR)

SUBMITTED: October 3, 1961

Fig. 1. Reactivation of EM cells after irradiation with 150 kr (А) and 250 kr (Б).
Legend: (I) cells rich in fat; (II) cells poor in fat; (a) percentage of cell survivals; (b) days.

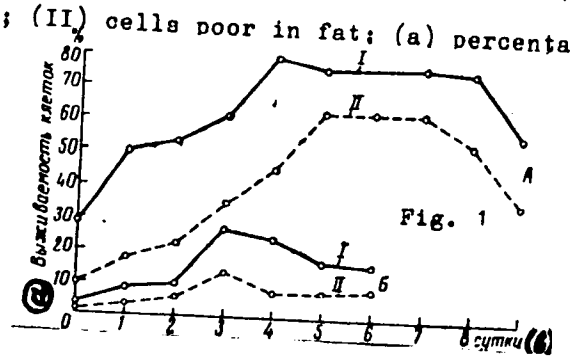

Fig. 1

Card 3/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N., red.; LASHKEVICH, Yu.I.[translator]; YANOVSKAYA, Ye.A., red.; REZCUKHOVA, A.G., tekhn. red.

[Functional morphology of the cell] Funktsional'naia morfologiia kletki; sbornik statei. Moskva, Izd-vo inostr. lit-ry, 1963. 421 p. (MIRA 16:10)

1. Chlen-korrespondent AN SSSR (for Meysel').
(CYTOLOGY)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

S/216/63/000/002/004/004
A066/A126

AUTHORS: Sondak, V.A., Meysel', M.N., Manteyfel', V.M.

TITLE: Micronecrotic foci in the spleen of irradiated animals

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya biologicheskaya, no. 2, 1963, 232 - 239

TEXT: Luminescence microscopic studies were made of cell injuries in the spleen of albino rats. The animals were exposed to overall X-ray irradiation in doses of 100 - 1,000 r and killed at various intervals up to 24 h after irradiation. The preparations were fluorochromated intravitam or supravitam with acridine orange or with mixtures thereof and basic fuchsine or basic fuchsine and Congo red. Radiation-induced increase in the number of lymphocytes and changes of their nucleoproteid structure were observed already after 39 min of irradiation with 500 r. Groups of young lymphoid cells similar to micronecrotic foci detected previously in the bone-marrow of irradiated animals appeared at the same time. The number of these cell groups increased with rising dose, reached a maximum after 12 h approximately, whereupon it dropped sharply until the 14th

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

Micronecrotic foci in the spleen of S/216/63/000/002/004/004
A066/A126

hour after irradiation with 500 r. The lymphoid cells disappeared entirely after 24 h. Secondary and intrinsic luminescence were recorded using a special microscope. The pictures showed that ultraviolet absorption and ultraviolet luminescence increased markedly in the injured cells, especially in the micronecrotic foci. This applies not only to the cells but also to the detritus and to clusters of nucleoproteids and nucleic acids separating from the cells. As similar phenomena have been observed in the bone-marrow and in lymphatic nodes of irradiated animals, the increase in ultraviolet luminescence appears to be of general significance. The substances responsible for this effect are being studied. There are 4 figures.

ASSOCIATION: Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR (Institute of Radiation and Physicochemical Biology AS USSR); Institut biofiziki AN SSSR (Institute of Biophysics AS USSR)

SUBMITTED: September 3, 1962

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.; MANTEYFEL', V.M.

Nature of micronecrotic nidi in the hemopoietic organs of irradiated animals. Izv. AN SSSR. Ser. biol. no.6:871-879 N-D '63. (MIRA 17:2)

1. Institute of Radiation and Physico-Chemical Biology, Academy of Sciences of the U.S.S.R., Moscow.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

L 12811-63 EWT(1)/EWT(m)/BDS/ES(j) AMD/AFFTC/ASD AR/K

ACCESSION NR: AP3003231 S/0020/63/150/006/1366/1369

57

56

AUTHOR: Saliverstova, L. A.; Maysel', M. N.

TITLE: Relationship between regeneration of irradiated cells and type of energy metabolism

SOURCE: AN SSSR. Doklady, v. 150, no. 6, 1963, 1366-1369

TOPIC TAGS: yeast cell, regeneration, irradiated cell, energy metabolism, aerobic oxidation, alcoholic fermentation

ABSTRACT: Yeast cell regeneration after ionizing irradiation 19 was studied under conditions of aerobic oxidation and alcoholic fermentation. Each of the 2 species tested (1 strain each of Saccharomyces vini (ellipsoideus) and Saccharomyces cerevisiae) was grown in both agar-malt wort in Petri dishes (aerobic cultures) and in a thick layer of liquid wort in test-tubes (anaerobic cultures). After 48 hours' growth, the yeast was separated from the nutrient medium, rinsed with sterile tap-water, and subjected, as a 2% aqueous suspension, to x-irradiation (3560 r/min). Korogodin's method (Biofizika, v. 3, 1958, 2061) was used to assess

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

L 12841-63

ACCESSION NR: AP3003231

O

regeneration. Dilute suspensions of irradiated and control yeast (final concentration of yeast cells 0.02%) were poured into sterile test-tubes and kept in the thermostat at 28C. Every day, aerobic and anaerobic yeast cells were inoculated into agar-wort nutrient medium in Petri dishes and the number of colonies growing out was counted after 3 days. Statistical analysis of the results with S. vini showed 3.6 and 4.3% aerobic and anaerobic cells, respectively, to be capable of colony formation when inoculated immediately after irradiation; inoculated after 24 hours in water, 46 and 17% respectively, formed colonies; after 2 days, 50 and 22% and after 3 days, 79 and 41%. Results were similar with S. Cerevisiae, except that 4.1% anaerobic cells inoculated immediately after irradiation survived, as compared to 1.5% aerobic cells; after 3 days in water, however, 79% of the aerobic type were capable of regeneration, as against only 35% of the anaerobic type. Further experiments with S. cerevisiae grown for longer periods (2 weeks) under widely different aeration conditions and then irradiated confirmed the greater immediate sensitivity and greater ultimate regeneration of aerobically grown yeast cells. The observed differences in the regeneration of the two types of cell is attributed to the functional and structural reorganization of the cells occurring in the shift from aerobic to anaerobic conditions, and especially reorganization of the mitochondrial apparatus and respiratory enzyme system.

O

Card 2/2 Inst. of Microbiology, Academy of Sciences, SSSR

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

BIRYUZOVA, V. I.; VOLKOVA, T. M.; MEYSEL, M. N.

"The effect of growth conditions upon the ultrastructure of yeast cell mitochondria."

rpt submitted for 3rd European Regional Conf, Electron Microscopy, Prague, 26 Aug-3 Sep 64.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL, M. N.; MANTEYFEL, V. M.; BARSKIY, V. Ye.; POGLAZOVA, M. N.

"Fluorescent cytochemistry of cell damage, necrobiosis and intracellular digestion."

report submitted for 2nd Intl Cong, Histochemistry & Cytochemistry, Frankfurt, 16-21 Aug 64.

Moscow.
Inst Physico-Chemical & Radiation Biology, AS USSR, Vavilov Street 3, Moscow B-312.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N.; REMEZOVA, T.S.; BIRYUZOVA, V.I.; GAL'TSOVA, R.D.; MEDVEDEVA, G.A.; POMOSHCHNIKOVA, N.A.; SELIVERSTOVA, L.A.; POGIAZOVA, M.N.; NOVICHKOVA, A.T.; VOLKOVA, T.M.

Cytophysiological and biochemical studies of yeasts during their recovery following radiation injury. Izv. AN SSSR. Ser. biol. no.6: 827-851 N-D '64. (MIRA 17:11)

1. Institute of Microbiology, Academy of Sciences of U.S.S.R., and Institute of Radiation and Physico-Chemical Biology, Academy of Sciences of U.S.S.R., Moscow.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

ACCESSION NR: AP4031823 S/0220/64/033/002/0270/0277

AUTHOR: Meysel', M. N.; Medvedeva, G. A.; Biryuzova, V. I.; Volkova, T. M.

TITLE: A comparative investigation of the microscopic and ultramicroscopic structure of irradiated Saccharomyces vini and Rhodotorula glutinis yeast cells

SOURCE: Mikrobiologiya, v. 33, no. 2, 1964, 270-277

TOPIC TAGS: Saccharomyces vini yeast, Rhodotorula glutinis yeast, X-irradiated yeast cell, structural comparison, yeast microscopic structure, yeast ultramicroscopic structure, yeast radiosensitivity, yeast mitochondrion damage, yeast metabolic process

ABSTRACT: Saccharomyces vini and Rhodotorula glutinis yeast cultures which differ in radiosensitivity, structure, and metabolism were investigated to compare the structural nature of radiation injuries. Saccharomyces vini and Rhodotorula yeast cultures (24 hrs old) were X-irradiated (RUP-1, 15 ma, 210 kv, no filter, focal length 9 cm, 3570 r/min) with single 100 kr doses. The irradiated yeast cells were investigated by optic light microscopy and electronic microscopy

Card 1/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

ACCESSION NR: AP4031823

immediately after irradiation and again after 18 to 24 hrs growth. Survival of irradiated yeast cells was based on number of colonies grown on agar compared to number of nonirradiated yeast cell colonies. Findings show that the structural organization differences of Sacch. vini and Rh. glutinis yeast cells correlate with the metabolic specificity and radiosensitivity of these organisms. Obligate aerobic Rh. glutinis yeast is more radiosensitive than the well fermenting Sacch. vini yeast. Irradiation of yeast cells with doses that do not cause immediate death does not produce any sharp structural-morphological damage in the cells. Only during the metabolic process do molecular injuries of the functional structure develop into more serious injuries which are first revealed by electronic microscopy and then by optic light microscopy. After irradiation and during the following growth period the most distinct changes are found in the mitochondria. However, the injuries do not spread throughout the entire mitochondrial system and the remaining undamaged mitochondria apparently represent the cambium from which a new population of energy yielding cell structures develops. The lipoprotein cell membranes (mitochondrial and nuclear membranes, endoplasmic reticulum) are relatively radioresistant. Orig. art. has: 1 figure.

Card 2/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

ACCESSION NR: AP4031823

ASSOCIATION: Institut mikrobiologii Akademii nauk SSSR Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR (Microbiology Institute of Academy of Sciences USSR Institute of Radiation and Physicochemical Biology AN SSSR)

SUBMITTED: 20Feb63 ENCL: 00 SUB CODE: LS

NR REF SOV: 006 OTHER: 012

Card 3/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEYSEL', M.N., [illegible]
[illegible], M.N.

Nature of the structures obtained by [illegible] Kalinenko [illegible] distilled water under the influence of an electric current. Mikrobiologiia [illegible] 367 [illegible]

1. Institut mikrobiologii AN [illegible]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

IMSHENETSKIY, A.A., KRASIL'NIKOV, [illegible], KRISS, [illegible], MEYSEL, M.N., MISHUSTIN, Ye.N.; RAUTENSHTEYN, Ya.[illegible], SKRYABIN, [illegible]

Boris Iakovlevich El'bert, 1890-1963, an obituary. Mikrobiologiia 33 no.2:378-379 Mr-Ap '64. MIRA [illegible]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

PETRIKEVICH, S.B.; DANIL'TSEVA, G.Ye.; MEYSEL', M.N.

Accumulation and chemical transformation of 3,4-benzopyrene by micro-organisms. Dokl. AN SSSR 159 no.2:436-438 N '64. (MIRA 17:12)

1. Chlen-korrespondent AN SSSR (for Meysel').

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

MEDVEDEVA, G.A.; MEYSEL', M.N.; IONICHEVA, G.A.

Regeneration of yeast organisms following their inactivation with chloroethylamine and their adaptation to this compound. Dokl. AN SSSR 159 no.3:656-659 N '64 (MIRA 18:1)

1. Institut mikrobiologii AN SSSR. 2. Chlen-korrespondent AN SSSR (for Meysel').

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

L 27793-66 EWT(m)

ACC NR: AP6018409 SOURCE CODE: UR/0216/65/000/006/0884/0897

AUTHOR: Mantsyfel', V. M.; Magnel', M. N.

ORG: Institute of Molecular Biology, AN SSSR (Institut molekulyarnoy biologii AN SSSR)

TITLE: Role of the mitochondria of lymphocytes in their response to ionizing radiation

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 6, 1965, 884-897

TOPIC TAGS: ionizing radiation, radiation biologic effect, cell physiology, electron microscopy, rat, protein, biologic metabolism

ABSTRACT: Electron microscopic studies on the lymph nodes of white male rats exposed to large doses of ionizing radiation or at comparatively high dose rates revealed injury to the ultrastructure of lymphocytes within 4 to 5 minutes. The lipoprotein membranes of the cells organelles (cristae and mitochondrial membranes, nuclear membranes) were particularly affected, chiefly in the form of stratification and vacuolation of the two-layer membranes and destruction of the cristae. The changes appeared sooner in the mitochondria than in the nuclei and preceded structural injury to the nuclear nucleoproteins.

The fusion of injured mitochondria and intimate contact with the nuclear membranes were clearly demonstrated. A comparison of the results of this investigation with published data on early structural and ultra-

Card 1/2

UDC: 591.81

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

L 27793-66

ACC NR: AP6018409

structural lesions and functional disturbances in mitochondria and nuclei of irradiated radiosensitive cells indicates that they are interdependent. The ready vulnerability of the comparatively few mitochondria and the ensuing impairment of the energy metabolism of the cells play an important role in the radiosensitivity of lymphocytes and cells with similar responses to radiation. The vulnerability of desoxyribonucleoproteins following irradiation of radiosensitive cells together with the impairment of their energy balance caused by injury to the mitochondria seem to be the factors responsible for the death of these cells in the interphase. Orig. art. has: 16 figures. [JPRS]

SUB CODE: 06 / SUBM DATE: 04Aug65 / ORIG REF: 024 / OTH REF: 048

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

[illegible] Y. [illegible], M.N.

Vladimir Aleksandrovich Engel'gardt, [illegible] on his [illegible] birthday. Izv. AN [illegible] Ser. Biol. 30 no.1 [illegible] 9 Ja-F [illegible]6.

[illegible]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0

PETRIKEVICH, S.B.; MEYSEL', M.N.

Localization of ar[illegible] in cells.
Dokl. AN SSSR 165 no.1: [illegible] N '65. (MIRA 18:10)

1. Institut molekulyarnoy biologii AN SSSR. 2. Chlen-korrespondent AN SSSR (for Meysel').

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730004-0"