APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

Kostyuk, V. A.

Nitrogen fractions of seeds of some leguminous plants. V. G. Klimenko and V. A. Kostyuk. *Uchenye Zapiski Kishinev. Univ.* 8, 183-8(1955); *Referat. Zhur., Khim.* 1954, No. 41423.—Seeds of 13 different leguminous plants were extd. with solns. of 10% NaCl and 0.2% NaOH. In each case the extn. continued until no pos. test for proteins in the ext. was obtained. The proteins sol. in 0.5% NaCl were detd. by making 20-fold dilin. of the 10% NaCl exts. with distd. water and by removal of the insol. (pptd.) protein fraction. Seeds of acacia, honey locust, and bladderwort contain more of the total and prptein N fractions, extractable with 10% NaCl soln., than grass varieties of this plant family. The protein N, extractable with 0.2% NaOH soln., is present in the smallest amts. in seeds of chick pea and lobella, and in the largest amts. in seeds of honey locust and bladderwort. The seeds of the ligneous plants of the family contain the largest amts. of the protein N, sol. in 0.5% NaCl.

E. Wierbicki

1

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DOLGIN, G.[Dolhin, H.]; SAPUKHIN, P.; KOSTYUK, V., red.; GURZHIY,M. [Hurzhii,M.], tekhn. red.

Sumy. Kyiv, Derzh. vyd-vo URSR "Mystetstvo," 1963. 4 p. (MIRA 17:3)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

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KOSTYUK, V.

Green leaves are rustling.... Okhr.truda i sots.strakh. 3 no.6:40-41 Je '60. (MIRA 13:7)
(Industrial hygiene) (Landscape architecture)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

DONSKOY, D. [Dons'koi, D.]; KOSTYUK, V., red.; KONTAR, K., tekhn.red.

[Kiev] Kyiv. Kyiv, Derzh.vyd-vo obrazotvorchoho mystetstva i muzychnoi lit-ry URSR, 1960. 1 v. (MIRA 14:2)
(Kiev--Views)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

DONSKOY, D. [Dons'koi, D.]; KOSTYUK, V., red.; KONTAR, K., tekhn.red.

[Zaporozh'ye; photographic sketch] Zaporizhzhia; fotonarys. Kyiv, Derzh.vyd-vo obrazotvorchoho mystetstva i muzychnoi lit-ry URSR, 1960. 1 v. (MIRA 14:4)
(Zaporozh'ye--Views)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, S.S.

Electrification of agriculture in White Russia. Mekh.i elek.sots.sel'khoz. 17 no.5:21 '59. (MIRA 12:12)

1. Zamestitel' ministra sel'skogo khozyaystva Belorusskoy SSR.
(White Russia--Electricity in agriculture)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

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KOSTYUK, Samuil Semenovich [Kastsiuk, S.]; BURAY, A. [Burau, A.]; SLAVYANIN, I. [Slavianin, I.], tekhn.red.

[Agriculture in White Russia during the 40 years of the Soviet regime] Sel'skaia hospodarka Belarusi za 40 hod Sovetskai ulady. Minsk, Dziarzh. vyd-va BSSR. Riedaktsyia palitychnai litaratury, 1957. 69 p. (MIRA 11:4)

(White Russia--Agriculture)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, S.

Rubber

Struggle for rubber. Mol. kolkh. 19 no.6, 1952.

Monthly List of Russian Accessions, Library of Congress, August, 1952. UNCLASSIFIED.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.S.

Electric manifestations of reciprocal excitation and inhibition in single intercalary neurons. Dokl. AN SSSR 120 no. 1:219-222 My-Je '58. (MIRA 11:7)

1. Kiyevskiy gosudarstvennyy universitet im. T. Shevchenko. Predstavleno akademikom I.S.Beritashvili.
(SPINAL CORD)
(ELECTROPHYSIOLOGY)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P. N.

"Flora Injurious to Grape Vine in the Ukrainian SSR." Min Culture USSR, Kishinev Agricultural Inst imeni M. V. Frunze, Odessa, 1953. (Dissertation for the Degree of Candidate in Agricultural Sciences)

SO: M-955, 16 Feb 56

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.; SHAPOVALOV, A.I.

Relationship between electric polarization and rhythmic activity in striated muscle fibers. Biofizika 5 no. 5:586-594 '60. (MIRA 13:10)

1. Institut fiziologii imeni A.A. Bogomol'tsa AN USSR, Kiyev.
(MUSCLE) (ELECTROPHYSIOLOGY)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G. [Kostiuk, P.H.]

Twenty-first International Congress of Physiology. Fiziol.zhur. [Ukr.] 6 no.2:276-279 Mr-Ap '60. (MIRA 13:7)
(PHYSIOLOGY--CONGRESSES)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

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of the results obtained are examined in detail. The use of microelectrodes in physiological experiments and the recent technical achievements of non-Soviet neurophysiologists are reviewed in detail. Methods used for other purposes besides the distribution of bioelectrical potentials, such as the use of microelectrodes as microinjectors in order to introduce various substances into the cell, or the polarization of individual cells through intracellular microelectrodes are also discussed. No personalities are mentioned. There are 195 references: 40 Soviet, 146 English, 5 French, and 4 German.

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II. Immersion of Microelectrodes 19

III. Input Stages and Amplifiers 29

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PHASE I BOOK EXPLOITATION SOV/4937

Kostyuk, Platon Grigor'yevich.

Mikroelektrodnaya tekhnika (Microelectrode Technique) Kiyev, Izd-vo AN Ukr. SSR, 1960. 125 p. 3,000 copies printed.

Sponsoring Agency: Akademiya nauk Ukrainskoy SSR. Institut fiziologii imeni A. A. Bogomol'tsa

Resp. Ed.: D. S. Vorontsov, Academician of the Academy of Sciences UkrSSR; Ed. of Publishing House: Z. B. Yankovskaya; Tech. Ed.: A. M. Lisovets.

PURPOSE: This book is intended for scientists working in the fields of physiology, cytology, and clinical neurophysiology.

COVERAGE: The book is claimed to be the first systematic presentation of the techniques applied in using microelectrodes for the study of basic physiological processes. The book describes the use of extracellular and intracellular microelectrodes. In both cases the methods of producing microelectrodes, the amplifying systems which may be used when operating with them, and methods of analysis

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.

Features of polysynaptic excitation and inhibition of single motor neurons. Fiziol. zhur. 46 no. 4:398-407 Ap '60. (MIRA 13:10)

1. From the A.A. Bogomoletz Institute of Physiology, the Ukrainian S.S.R., Academy of Sciences, Kiev.
(NERVES) (SPINAL CORD)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.

Electrophysilogical characteristics of separate neurons of the spinal cord. Fiziol.zhur. 46 no.1:9-19 Ja '60. (MIRA 13:5)

1. From the Ukrainian S.S.R. Academy of Sciences A.A. Bogomolets Institute of Physiology, Kiev.
(SPINAL CORD physiol.)
(NEURONS)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.; SHAPOVALOV, A.I.

Features of the responses of various neurons of the spinal cord to direct stimulation. Biul. eksp.biol.i med. 50 no.9:8-11 S '60. (MIRA 13:11)

1. Iz laboratorii obshchey fiziologii (rukovoditel' - doktor biologicheskikh nauk P.G.Kostyuk) Instituta fiziologii imeni A.A. Bogomol'tsa (dir. - chlen-korrespondent AN USSR A.F. Makarchenko) AN USSR, Kiyev.

(SPINAL CORD)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.; SEMENYUTIN, I.P.

Rhythmical background activity of individual neurons of the spinal cord. Biofizika 6 no.4:448-458 '61. (MIRA 14:7)

1. Institut fiziologii imeni A.A.Bogomol'tsa AN USSR, Kiyev.
(SPINAL CORD) (ELECTROPHYSIOLOGY)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G. [Kostiuk, P.H.]; SEMENYUTIN, I.P.

Characteristics of the excitation process in different parts of the motor neuron. Fiziol. zhur. [Ukr.] 7 no.2:165-177 Mr-Ap '61. (MIRA 14:4)

1. Laboratory of General Physiology of the A.A.Bogomoletz Institute of Physiology of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.

(NERVES) (ELECTROPHYSIOLOGY)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.; SEMENYUTIN, I.P.

Dependence of polysynaptic reactions of the motor neuron on the level of its resting potential. Fiziol. zhur. 47 no.6:678-686 Je '61. (MIRA 15:1)

1. From the A.A.Bogomolets Institute of Physiology Ukrainian S.S.R. Academy of Sciences, Kiev.
(NERVES, SPINAL) (ELECTROPHYSIOLOGY)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.

Characteristics of excitation and inhibition processes in the separate intermediate neurons of the spinal cord. Fiziol. zhur. 47 no.10:1241-1252 O '61. (MIRA 15:1)

1. From the A.A.Bogomolets Institute of Physiology Academy of Sciences of the Ukrainian S.S.R., Kiev.
(SPINAL CORD--INNERVATION)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.

"Pre- and post-synaptic functional changes during degeneration of central synapses."

Report submitted, but not presented at the 22nd International Congress of Physiological Sciences.
Leiden, the Netherlands 10-17 Sep 1962

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G. [Kostiuk, P.H.]; SAVOS'KINA, I.A. [Savos'kina, I.O.]

Functional changes in degenerating central synaptic endings. Fiziol. zhur. [ukr.] 8 no.5:588-592 S-O '62. (MIRA 17:11)

1. Laboratory of General Physiology of the A.A.Bogomol'tsa Institute of Physiology of the Ukrainian S.S.R., Kiev.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

COVERAGE: The present book is a collection of articles presented at the Symposium on Electrophysiology held in Kiyev on 1-2 July 1961. The articles in the collection are grouped into the following sections: 1) Electrophysiology of neurons (sensory, motor, and relay neurons of the spinal cord, and neurons of the retina); 2) Induced electrical potentials of the cerebral cortex; and 3) Background rhythms of the cerebral cortex. References are given following the individual chapters. No personalities are mentioned.

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General Problems of Neuron Electrophysiology (P. G. Kostyuk, Kiyev) 5

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Electrophysiology of Neurons of the Spinal Ganglia of Frogs (A. A. Lev, Leningrad) 40

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KOSTYUK, P.G.[Kostiuk, P.H.]

Current problems of general electrophysiology. Fiziol. zhur [Ukr.] 8 no.4:433-441 Jl-Ag '62. (MIRA 18:4)

1. Institut fiziologii im. Bogomol'tsa AN UkrSSR, Kiyev.

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KOSTYUK, P.G., doktor biolog.nauk

With the physiologists of Australia. Vest. AN SSSR 32 no.2:84-87 F '62. (MIRA 15:2)
(Australia—Neurological research)

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EKKLS, Dzh. [Eccles, J.C.]; KOSTYUK, P.G.; SHMIDT, R.F. [Schmidt, R.F.]

Nature and functional significance of the electrotonic potential of the dorsal root of the spinal cord. Fiziol. zhur. [Ukr.] 8 no.1:21-37 Ja-F '62. (MIRA 15:2)

1. Laboratoriya fiziologii Avstraliyskogo Natsional'nogo universiteta, Kanberra.

(SPINAL CORD)

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MAKARCHENKO, A.F. [Makarchenko, O.F.]; FUDEL'-OSIPOVA, S.I. [Fudel'-Osypova, S.I.]; KOSTYUK, P.G. [Kostiuk, P.H.]

Danylo Semenovych Vorontsov; on his 75th birthday. Fiziol. zhur. [Ukr.] 8 no.1:3-12 Ja-F '62. (MIRA 15:2)
(VORONTSOV, DANYLO SEMENOVYCH, 1886-)

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KOSTYUK, P.G.

4

ASRATYAN, Ezras Agratovich, Physiological Laboratory, Academy of Sciences USSR, Moscow - "The effect of use and disuse on nerve cells following spinal cord transsection" Session II-1

FERDMAN, David Lazarevich, Institute of Biochemistry, Academy of Sciences Ukrainian SSR, Kiev - "Biochemical characteristics of dystrophy and atrophy of muscles" Session II-2-a

KOSTYUK, Platon Grigor'yevich, Deputy Director, Institute of Physiology imeni A.A. Bogomelets, Academy of Sciences Ukrainian SSR, Kiev - "Functional changes in central synapses following denervation" Session II-1

MESHKOVA, N. P., Chair, Animal Biochemistry, Moscow State University, Moscow - "Muscle changes produced by tetanus toxin" II-2-b

report to be submitted for the Symposium on the Effects of Use and Disuse on Neuromuscular Functions (IUPS), Prague-Liblice, Czech. , 18-24 Sep 1962.

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ANOKHIN, P.K., red.; KOSTYUK, P.G., red.; KRYZHANOVSKIY, G.N., red.; LEBEDINSKIY, A.V., red.; MENITSKIY, D.N., red.; MUZYKANTOV, V.A., red.; PARIN, V.V., red.; ROYTBAK, A.I., red.; KULLANDA, K.M., red.

[Contemporary problems of electrophysiological studies of the nervous system] Sovremennye problemy elektrofiziologicheskikh issledovanii nervnoi sistemy. Moskva, Meditsina, 1964. 519 p. (MIRA 17:7)

1. Akademiya meditsinskikh nauk SSSR, Moscow.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.; TIMCHENKO, V.B.

Characteristics of prolonged depolarization of the central branches of afferent fibers in the spinal cord of a frog. Fiziol. zhur. 49 no.11:1369-1377 N '63. (MIRA 17:8)

1. Institut fiziologii imeni A.A. Bogomol'tsa AN UkrSSR, Kiyev.

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KOSTYUK, P.G.

Contemporary achievements in the electrophysiology of the nerve cell. Zhur. vys. nerv. deiat. 13 no.6:1018-1031 N-D '63. (MIRA 17:7)

1. Institut fiziologii imeni Bogomol'tsa AN UkrSSR.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

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KOSTYUK, P.G. [Kostiuk, P.H.]; NARIKASHVILI, S.P.

Conference on inverse connections in the nervous system. Fiziol. zhur. [Ukr.] 9 no.5:695-698 S-O'63 (MIRA 17:4)

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KOSTYUK, P.G. [Kostiuk, P.H.]

Achievements of and outlook for modern research on the activity of the nerve cell. Fiziol. zhur. [Ukr.] 9 no.5:579-587 S-O'63 (MIRA 17:4)

1. Institut fiziologii imeni Bogomol'tsa AN UkrSSR, Kiyev.

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NARIKASHVILI, S.P.; KOSTYUK, P.G., prof.

Conference on Physiology in Mexico. Vest. AN SSSR 33 no.9:71-72 S '63. (MIRA 16:9)

1. Chlen-korrespondent AN Gruzinskoy SSR (for Narikashvili).
(Physiology)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

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GERASIMOV, V.D.; KOSTYUK, P.G.; MAYSKIY, V.A.

Effect of bivalent cations on the electric characteristics of giant neuron membranes. Biofizika 10 no.3:447-453 '65. (MIRA 18:11)

1. Institut fiziologii imeni Bogomol'tsa AN UkrSSR, Kiyev. Submitted Oct. 7, 1963.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G., prof.

Congress of Physiological Sciences at Leiden. Vest.AN SSSR 33 no.4:82-84 Ap '63. (MIRA 16:4)
(Physiology) (Medicine--Congresses)

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L 1594-66
ACCESSION NR: AP5024768

species of close systematic affinity are discussed. One of the suggested reasons is the relatively high concentration of divalent ions in the hemolymph of the Helix, compared to the other two mollusks studied. Orig. art. has 3 figures.

ASSOCIATION: Laboratoriya obshchey fiziologii Instituta fiziologii im A. A. Bogomol'tsa AN UkrSSR, Kiev (General Physiology Laboratory of the Institute of Physiology, AN UkrSSR)

SUBMITTED: 24Feb64 ENCL: 00 SUB CODE: LS

NR REF SOV: 004 OTHER: 005 JPRS

Card 2/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

L 1594-66

ACCESSION NR: AP5024768 UR/0219/64/058/009/0003/0007

AUTHOR: Gerasimov, V. D.; Kostyuk, P. G.; Mayskiy, V. A.

30
B

TITLE: Excitability of the giant nerve cells of various representatives of pulmoniferous mollusks (Helix pomatia, Limnea stagnalis, Planorbis corneus) in solutions free of sodium ions

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 58, no. 9, 1964, 3-7

TOPIC TAGS: cytology, nervous system, ion, sodium, electrode neurology

ABSTRACT: Results of comparative study, using intracellular electrodes, of the excitability of giant nerve cells, chiefly from the parietal ganglia, in sodium-free $CaCl_2$ ($BaCl_2$) solutions. The Helix cells were persistently excitable, giving high action potential values, the amplitude of the latter and the membrane resistance increasing with an increase in the calcium (barium) ion concentration. In analogous conditions the Limnea and Planorbis cells lost their excitability and did not produce any action potentials under direct stimulation. The possible causes for the differences in the ionic mechanisms of nerve cell action potentials in animal

Card 1/2

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ACCESSION NR: AP4012884

ASSOCIATION: INSTITUT FIZIOLOGII IM. A. A. BOGOMOL'TSA AN UkrSSR, KIEV (Institute of Physiology)

SUBMITTED: 00 DATE ACQ: 02Mar64 ENCL: 00

SUB CODE: AM NO REF SOV: 000 OTHER: 000

Card 2/2

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

L 27053-66

ACC NR: AP6017432 SOURCE CODE: UR/0217/65/010/003/0447/0453

AUTHOR: Gerasimov, V. D.; Kostyuk, P. G.; Mayskiy, V. A.

ORG: Institute of Physiology im. A. A. Bogomolets AN UkrSSR, Kiev (Institut fiziologii AN UkrSSR)

TITLE: Effect of bivalent cations on the electrical characteristics of giant neuron membranes

SOURCE: Biofizika, v. 10, no. 3, 1965, 447-453

TOPIC TAGS: neuron, neurophysiology, cell physiology, cation

ABSTRACT: A report describing the effect of bivalent cations on the electrical characteristics of the resting and active membranes of the soma of the giant neurons of grape snail (Helix pomatia), with Ca or Ba substituted for Na in the solution. An increase in the concentration of Ca or Ba in a sodium-free solution resulted in slight hyperpolarization of the cell membrane. The resistance of the latter rose in proportion to the logarithm of the concentration of the bivalent ions. In sodium-free solutions containing Ca or Ba, the giant neurons were capable of generating action potential for a long time. The value of the "overshoot" was in linear relation to the logarithm of the concentration of the bivalent ions. This relationship was close to the theoretical for the calcium or barium electrodes. An unusual form of cell-reaction-prolonged action potentials - arose in solutions with a high Ba concentration. The transmembrane difference in potentials during the "plateau" of such action potentials is at approximately the zero level of the resting potential. Orig. art. has: 5 figures. [JPRS]

SUB CODE: 06 / SUBM DATE: 07Oct63 / ORIG REF: 008 / OTH REF: 021

Card 1/1 UDC: 577.37

mation and electronic computers, and concerted electrophysiological, electron-microscopical and cytochemical efforts. Orig. art. has: no graphics.

Card 1/2

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L 28048-66

ACC NR: AP6018176 SOURCE CODE: UR/0239/65/051/006/0703/0710

AUTHOR: Gerasimov, V. D.; Kostyuk, P. G.; Mayskiy, V. A.

ORG: Laboratory of General Physiology, Institute of Physiology im. A. A. Bogomoleta, AN UkrSSR, Kiev (Laboratoriya obshchey fiziologii Instituta fiziologii AN UkrSSR)

TITLE: Reactions of giant nerve cells to a break in the hyperpolarization current

SOURCE: Fiziologicheskiy zhurnal, v. 51, no. 6, 1965, 703-710

TOPIC TAGS: neuron, electrophysiology, neurophysiology, cell physiology

ABSTRACT: In an investigation, by means of two separate microelectrodes inserted simultaneously, of the electric reactions of giant neurons of the molluscs Helix pomatia and Planorbis corneus to the breaking of a hyperpolarization current, it was established that if the neuron was first depolarized, the break in the hyperpolarization current induced generation, by the neuron, of an action potential (anode break excitation or anelectrotonic reaction). The threshold of the anode break excitation was lower than that of the response of the neuron to a depolarizing current pulse under the same conditions. The anode break action potential developed in the same manner as that arising in response to a

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KOSTYUK, P.G., otv. red.; ANTONOV, Yu.G., kand. tekhn. nauk, red.; FRANTSEVICH, L.I., kand. biol. nauk, red.; YANKOVSKAYA, Z.B., red.

[Studies in bionics] Issledovaniia po bionike. Kiev, Naukova dumka, 1965. 113 p. (MIRA 18:9)

1. Chlen-korrespondent AN Ukr.SSR (for Kostyuk). 2. Institut kibernetiki AN Ukr.SSR (for Antonov).

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

GERASIMOV, V.D.; KOSTYUK, P.G.; MAYSKIY, V.A.

Changes in electric characteristics of the giant neuron membrane following increase in outer potassium ion concentration. Biofizika 10 no.2:272-280 '65. (MIRA 18:7)

1. Institut fiziologii imeni Bogomol'tsa AN UkrSSR, Kiyev.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

GERASIMOV, V.D.; KOSTYUK, P.G.; MAYSKIY, V.A.

Ionic conductivity of the giant nerve cell membrane of an edible snail. Biofizika 10 no.1:82-90 '65. (MIRA 18:5)

1. Institut fiziologii imeni Bogomol'tsa AN UkrSSR, Kiyev.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.

Intrinsic potentials of glass microelectrodes. [illegible]
no.3:373-378 Mr '64. [illegible]

1. Institut fiziologii imeni A.A. Bogomol'tsa AN [illegible]

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

GERASIMOV, V.D.; KOSTYUK, P.G.; MAYSKIY, V.A.

Reactions of giant nerve cells to an interruption of hyperpolarizing current. Fiziol. zhur. 51 no.6:703-710 Je '65. (MIRA 18:6)

1. Laboratoriya obshchey fiziologii Instituta fiziologii imeni Bogomol'tsa AN UkrSSR, Kiyev.

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L 28830-66

ACC NR: AP6018664 SOURCE CODE: UR/0239/65/051/012/1434/1441 24 B

AUTHOR: Gerasimov, V. D.; Kostyuk, P. G.; Mayskiy, V. A.

ORG: Institute of Physiology im. A. A. Bogomolets, AN UkrSSR (Institut fiziologii AN SSSR)

TITLE: Prolonged action potentials of giant nerve cell 22

SOURCE: Fiziologicheskiy zhurnal, v. 51, no. 12, 1965, 1434-1441

TOPIC TAGS: neuron, electrophysiology, cell physiology

ABSTRACT: Prolonged action potentials (PAP) are the action potentials whose descending segment includes a section with a slower rate of repolarization (recovery of normal level of potential, as opposed to depolarization, when the changes in the transmembrane difference in potentials are such that it is smaller than when at rest). PAP are doubtless an anomalous form of functioning of the excited cell, but their investigation opens broad vistas for experimental intervention into the ion mechanisms of the activated cell membrane, which is highly important in determining the nature of the process of excitation. Potentials of this kind constantly arise in the giant neurons of molluscs when Ba++ is added to the solution around the cell. In this connection the authors perform pertinent experiments on neurons of the molluscs Helix pomatia and Planorbis corneus. It was found that the addition of barium ions to the circumambient solution leads to a synaptic or direct depolarization of the cell membrane which results in action potentials lasting several seconds. Membrane resistance during PAP is 20-30% of membrane resistance at rest. Brief hyperpolarizing current pulses applied to the neuron against a PAP background may produce active repolarizing responses and restore the membrane to a quiescent state: this represents an interesting possibility of artificially eliminating prolonged changes in the ion mechanisms of excitation. Orig. art. has: 6 figures. [JPRS]

SUB CODE: 06 / SUBM DATE: 24Apr64 / ORIG REF: 005 / OTH REF: 021

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P. G.; SOROKINA, Z. A.

"On the Mechanism of Hydrogen Ion Distribution between Cell Protoplasm and Medium."

report submitted for the Symposium on Membrane Transport and Metabolism, Prague, Czech., 22-26 August 1960.

Inst. of Physiology, Acad of Sci of the Ukrainian SSR, Kiev.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G. [Kostiuk, P.H.]; SAVOS'KINA, L.A. [Savos'kina, L.O.]

Effect of a dorsal root section on synaptic conduction in the spinal cord. Fiziol.zhur. [Ukr.] 5 no.6:719-727 N-D '59. (MIRA 13:4)

1. Institut fiziologii im. A.A. Bogomol'tsa Akademii nauk USSR, laboratoriya obshchey fiziologii.
(SPINAL CORD)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.; SOROKINA, Z.A.; SHAPOVALOV, A.I.

Intracellular recording of muscle fiber potentials; rhythmic activity. Biofizika, 4 no.3:310-319 '59 (MIRA 12:7)

1. Institut fiziologii zhivotnykh pri Kiyevskom gosuniversitete.
(MUSCLES, physiol.
rhythmicity of musc. fiber potential, intracellular recording (Rus))

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.

Intracellular recording of muscle fibre potentials; pessimum [with summary in English]. Biofizika 4 no.2:134-143 '59.

(MIRA 12:4)

1. Institut fiziologii zhivotnykh pri Kiyevskom gosudarstvennom universitete imeni T.G. Shevchenko.

(MYONEUROL JUNCTION, physiol.
Vvedenskii's inhib. (Rus))

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the cell provoked a clearly expressed leap of the potential referred to the external solution, followed by its periodical oscillations of an undulating character. The duration of such a wave, comprising its maximum and minimum, varied from 7- to 35 sec. The amplitude of the oscillation varied between from 5 to 20 mV in different individuals.

More rapid potential oscillations proceeded against the background of the above described slow ones; their duration ranged from the parts of 1 to 2-3 sec, and their magnitude was about 1-3 mV.

It was demonstrated that the rate of the slow potential oscillations is considerably influenced by that of the surrounding solution flow, by osmotic conditions, by potassium ions and the substances affecting the metabolic processes (2,4-dinitrophenol).

In general terms, it can be said that the enzyme system acetyl-choline-cholinesterase, which plays an important part in various processes of nervous activity, and in particular in the phenomena of electrogenesis and electrical excitability in the nervous system, plays also a definite part at the pre-nervous level; and that the phenomena of galvanotaxis and summation of stimuli characteristic of Paramecia depend on its functional state. At the same time a rhythmic electrical activity typical of the biophysics of the nervous system can be recorded in the Protista.

Thus, even prior to the morphological differentiation of the structures typical of the nervous system, biochemical and biophysical phenomena characteristic of the function of the nervous system are represented in the Protista.

REFERENCES

1. Metzner, Zeitschrift, 1961.
2. Prosser, 1952; Simonov, 1957.

Kostel, K.; Anasiel, A. and Simonovic, L: **Thrombocytopenic and clotting efforts in hypothermia as influenced by the rate and way of cooling.** *(Inst. Med Res., Yugosla: Acad. of Sc. and Arts, Zagreb; Dep. Med., Med. Fac., Univ. Zagreb, Yugoslavia.)*

Rats cooled to rectal temperatures of about 16°C showed similar changes in the number of thrombocytes and prothrombin clotting time, regardless of the method of producing hypothermia (method of Gaja [1] and external cooling method in cold water). The observed changes return to normal after approximately 12 hours.

In experiments in which the influence of the rate of cooling was studied, rats were exposed to cold water at 9 and 15°C for various length of time. In rats cooled at a higher rate, rectal temperature of 16°C was reached in about 20 minutes. The thrombocytopenic and clotting changes recorded were significantly higher than in the animals cooled at a slower rate (40 minutes).

This work has been supported by the Commission for Medical Research (KOMNS), Belgrad.

REFERENCES

1. Gaja, L.: *Compt. rend.*, 1960, **210**, 88.

Kostyuk, P. G.: **Properties of spinal interneurones revealed by intracellular microelectrodes.** *(Inst. Physiol., Ukrainian Acad. Science, Kiev, Russia.)*

Potentials of dorsal horn cells and cells of the intermediate region of cats' spinal cord were recorded by means of intracellular microelectrodes with tip diameter less than 0.5 μ. Membrane potential values of interneurones were very variable (10-60 mV). Many cells showed steady spike activity of comparatively high frequency (usually til 100 per sec, sometimes more). Duration of spike was about 1 msec, no overshoot was observed. There was no after-hyperpolarization after the spike (also in cells which were obviously depolarized due to damaging). On the ascending phase of the spike a hump could be seen, which divided it into two parts. Each part behaved in an all-or-none manner. By analogy with motoneurones this could be considered as an evidence that the cell membrane consists of areas of different excitability and different electrical properties. If the functional state of the cell became worse or the cell was excited with high frequency, the second part of the spike was often blocked. The first one was more stable.

Spike potentials often aroused, without detectable EPSP-s. During antidromic stimulation the gradual depolarization ("prepotential") was more marked. The critical value of depolarization necessary for spike generation in such cases was about 5 mv.

Convergence of afferent impulses from different ipsilateral and contra- and ipsilateral cutaneous afferent fibres on such

Abstracts from the Program of the Int'l. Congress of Physiological Sciences, Buenos Aires 9-15 Aug 1959.

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KOSTYUK, Platon Grigor'yevich

[Dineuric reflex arc] Dvukhneironnaia reflektornaia duga. Moskva, Medgiz, 1959. 254 p. (MIRA 13:9)
(REFLEXES)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

Electric Manifestations of Reciprocal Excitation and Inhibition in Separate Interstitial Neurons SOV/20-120-1-61/65

1. Nerves--Electrical properties 2. Electric potential--Applications 3. Nerves--Theory

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

Electric Manifestations of Reciprocal Excitation and SOV/20-120-1-61/63
Inhibition in Separate Interstitial Neurons

though it is different from the inhibition in the motoneurons. In these cells, too, the coordination inhibition can be caused by separate afferent impulses by which the development of a typical parabiotic state cannot be explained. Further investigations are necessary in order to clear up the inhibition discussed. There are 3 figures and 8 references, 1 of which is Soviet.

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko (Kiyev State University imeni T. G. Shevchenko)

PRESENTED: February 5, 1958, by I. S. Beritashvili, Member, Academy of Sciences, USSR

SUBMITTED: January 30, 1958

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

Electric Manifestations of Reciprocal Excitation and 30/20-120-1-67/63
Inhibition in Separate Interstitial Neurons

motoneurons can hardly be regarded as a direct basis of inhibition in the interstitial neurons. The inhibition in the latter is more similar to the inhibition in some invertebrates: in the cells of Aleksandrovich and in the the sphincters of crustacean claws (references 7, 8). As was proved by the investigations described the inhibition in such formations is not conditioned by the hyperpolarization of the membrane but by a kind of its stabilization so that the arising of the depolarization necessary for the excitation is rendered difficult, if the membrane potential of the cell for some reason or other appears to be changed in this direction or that the effect of the inhibiting impulse is still stronger in the return of the membrane potential to the original value. A peculiarity of the processes in the interstitial neurons is the fact that here the stabilizing processes are not primary but developed according to a little depolarizing (excitating) influence of the afferent impulse on the cell. Such an inhibition cannot be connected with the development of variations of the type of a cathodic depression in the cell

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

AUTHOR: Kostyuk, P. G. SOV/ 20-120-1-61/63

TITLE: Electric Manifestations of Reciprocal Excitation and Inhibition in Separate Interstitial Neurons (Elektricheskiye proyavleniya retsiprocknogo vozbushdeniya i tormozheniya v otdel'nykh promezhutochnykh neyronakh)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 120, Nr 1, pp. 219-222 (USSR)

ABSTRACT: The employ of an intercellular derivation of electric potentials makes it possible to investigate the course and the nature of the processes of excitation and inhibition not only in motor but also in interstitial spinal neurons. As yet on this fact could only be judged on indirect data. Nevertheless the convergence of the nerve impulses in the polysynaptic reflexes which is accompanied by phenomena of alleviation and inhibition takes place just in the interstitial neurons. The previous methodology (reference 1) was used. The experiments of the author led to the conclusion that the increase of the membrane potential which doubtlessly is the basis of the inhibition in the

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20-119-6-56/56

Electric Manifestations of Reciprocal Excitation and Inhibition in Separate Motor Neurons

duration of hyperpolarization corresponds to the duration of the reciprocal inhibition after an individual stimulus, as mentioned in Ref 11. Just like in the case of a direct inhibition, hyperpolarization is primary. It is not connected with the presence of previously irritating effects upon the motor neurons (Figs 2, 4). By changing conditions it was mostly possible to separate the depolarization and the hyperpolarization from each other. This fact distinctly shows that possible complications are due to a simultaneous influence of several reflex effects upon the cell, viz. of excitating and inhibiting effects. Only after irritation of ipselateral nerves a continuously intensive hyperpolarization was found to occur. A contralateral impulse caused distinct changes only in interstitial neurons, in which excitation - as well as inhibition processes were able to form. The above data lead to the conclusion that the reciprocal inhibition caused by a contralateral impulse does not form in the motor neurons but in interstitial neurons (in accordance with Ref 12). During certain irritations the author never observed an inhibition in the spinal cord cells, that could be connected

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Electric Manifestations of Reciprocal Excitation and Inhibition in Separate Motor Neurons

occupies the principal place in the spinal cord. Hitherto the endeavor has been made by considering the mechanism of direct inhibition as an exception, to explain the reciprocal inhibition by other cell processes (Ref 4). Therefore the author has undertaken the work mentioned in the title in cases of a typical reciprocal inhibition, caused by afferent impulses of irritation of the skin nerves, of the second group of proprioceptive fibers, or of the dorsal roots. Intracellular leaking-off was performed by means of microelectrodes of glass with an upper diameter of 0,5 μ, which were filled with 3 M solution of KCl (method in Refs 5 - 6). The respiratory and pulsating fluctuations of the brain were overcome by a fixation of the vertebral column to the processus transversi and pr. spinosi; often it was necessary to treat the animal with curare, to apply a bilateral pneumothorax, and to accustom the animal to artificial respiration with oxygen. Cats and rabbits either decerebrated or narcotized with barbiturates served as test animals. The author's experiments showed that a long lasting hyperpolarization of the motor neuron surface represents the electrophysiological expression of its reciprocal inhibition. The

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20-119-6-56/56

AUTHOR: Kostyuk, P. G.

TITLE: Electric Manifestations of Reciprocal Excitation and Inhibition in Separate Motor Neurons (Elektricheskiye proyavleniya retsiproknogo vozbuzhdeniya i tormozheniya v otdel'nykh motoneyronakh)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 119, Nr 6, pp.1255-1258 (USSR)

ABSTRACT: The intracellular leaking-off of the potentials from individual cells of the central nervous system (Refs 1 - 3) proved to be a very effective method of investigating the manner and the nature of excitation and of inhibition in the different sections of the brain. Particularly, it was found that the basis of the most simple case of a central inhibition (of a so-called direct inhibition) forms the primary hyperpolarization of the cell surface, which is caused by the excitation of special synaptic endings. However, the direct inhibition is a special case of central inhibition, which plays a relatively unimportant part in reflex activity. The reciprocal inhibition of polysynaptic reflex motions

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KOSTYUK, P.G.

Intracellular recording of muscle fiber potentials; repeated stimulation [with summary in Egnlish]. Biofiziki 3 no.3:274-285 '58 (MIRA 11:6)

1. Institut fiziologii zhivotnykh pri Kieyvskom gos. universiteta im. T.G. Shevchenko.
(ELECTROPHYSIOLOGY)
(MUSCLE)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G. [Kostiuk, P.H.]

Investigating electric reactions in the central part of the extension reflex arc by the use of microelectrodes. Nauk zap. Kyiv. un. 16 no.18:5-23 '57. (MIRA 13:2)
(ELECTROPHYSIOLOGY) (SPINAL CORD)

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.

Materials on comparative characteristics of excitation processes in the nerve cell and the parabiotic section of the nerve. Nauk zap. Kyiv. un. 16 no.17:131-141 '57. (MIRA 13:2)
(NERVES) (ELECTROPHYSIOLOGY)

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USSR / Human and Animal Physiology. Neuromuscular Physiology. T

Abs Jour : Ref Zhur - Biol., No 15, 1958, No. 70481

neuromuscular transmission, the nerve impulse produced, in the region of the end-plate, a local diminution in the MP to 25-30 millivolts. The duration of local depolarization was about 20 millisecs. Following reversal of the blocking, the intensity of it increased. Upon reaching a level of 30-40 millivolts, a spreading peak arose. Depolarization was not accompanied by contraction of the muscle fiber. Contraction of the fiber was not accompanied by any particular changes in the MP. --
F. I. Mumladze

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

USSR / Human and Animal Physiology. Neuromuscular Physiology. T

Abs Jour : Ref Zhur - Biol., No 15, 1958, No. 70481

Author : Kostyuk, P. G.
Inst : Not given
Title : Intracellular Recording of Potentials of Muscle Fibers. Separate Stimuli

Orig Pub : Biofizika, 1957, Vol 2, No 4, 401-416

Abstract : If a microelectrode (M) had a diameter of its tip less than one micron, and penetrated a muscle fiber of the sartorius muscle of a frog without noticeable depression of the surface of the muscle, then at the moment of introduction into the fiber there was always recorded a sudden development of the membrane potential (MP), which averaged 83 millivolts. If penetration of the fiber was accomplished with an M with tip of diameter greater than one micron, then the MP developed gradually. The

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USSR/General Division. History. Classics. Personalities. A-2

Abs Jour : Ref Zhur-Biologiya, No 20, 1957, 85052

Abstract : particular, he investigated the conditions determining electrocardiogram configurations. He studied the role of various ions in the stimulation process and analyzed the electrical manifestations of stimulation reaction currents, etc.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P. G.

USSR/General Division. History. Classics. Personalities. A-2

Abs Jour : Ref Zhur-Biologiya, No 20, 1957, 85052

Author : L. G. Trofimov, G. I. Fudel'-Osipova, P. G. Kostyuk

Inst :

Title : Daniil Semenovich Vorontsov (On his 70th Birthday)

Orig Pub : Fiziol. Zh. SSSR, 1956, 42, No 11, 1004-1005

Abstract : This marks the 45th anniversary of the scientific and pedagogical activities of the physiologist Vorontsov, a corresponding member of the Academy of Sciences UkSSR, who was born in 1886. He studied problems of general neurophysiology, of electrophysiological analysis of nerve processes; in

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

4733. KOSTIUK P.G. Inst. of Animal Physiol., State Univ. of Kiev. *Electrotonic potentials of spinal roots on stimulation of muscle nerves (Russian text) FIZIOL.Ž. 1956, 42/3 (303-311) Illus.4

On stimulation of afferent nerves from the gastrocnemius muscle in decerebrate cats, in addition to the propagated spikes of the typical monosynaptic response, localized potentials of larger duration and in general of smaller amplitude and longer latent period can be recorded (electrotonic potentials 'ETP'). The ETP is propagated only up to a distance of 10 to 15 mm. from the spinal cord. With weak stimuli a small negative ETP can be obtained from the anterior roots, but not from the posterior roots, with a latent period of 0.003 sec. and 50 microvolt amplitude, and a duration of 0.008 to 0.01 sec. (monosynaptic ETP). With increased stimulus strength, multisynaptic ETPs are recorded from the anterior roots with much greater amplitude (200-300 microvolts), latent period (0.004-0.02 sec.) and duration (0.03-0.05 sec.). The individual variability is large. The multisynaptic ETP is sometimes initiated by a small positive deflection, followed by the main negative deflection. In several experiments there was a terminal small positive deflection, which prolonged the total duration of the ETP to 0.1 sec. The multisynaptic ETP could also be derived from the posterior roots; it was always negative and had a latent period of 0.003 sec., exceeding the entry of afferent impulses into the spinal cord by 0.001 sec., but appeared earlier than the ETP in the anterior roots. There was no correlation between ETP and the propagated spikes of the motor reflex response. The ETP obtained from the surface of the spinal cord is significantly different from that derived from the anterior or posterior roots.

Simonson - Minneapolis, Minn.

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

GOLOV, D.A.,; KOSTYUK, P.G.

Cascade of an amplifier for the intracellular lead of electric potentials. Fiziol. zh. SSSR 42 no.1:114-117 Ja 56. (MLRA 9:5)

1. Institut fiziologii zhivotnykh pri Kiyevskom universitete imeni T.G. Shevchenko.
(ELECTROPHYSIOLOGY, apparatus and instruments,
inlet cascade for reinforcing appliance for intracellular lead of electric potentials (Rus))

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APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000825300038-6

KOSTYUK, P.G.

Electronic potentials in the simplest reflex arc in phenol poisoning
Biul.eksp.biol.med. 41 no.5:3-6 May '56. (MLRA 9:8)

1. Iz otdela obshchey fiziologii (zav. chlen-korrespondent AN USSR D.S.Vorontsov) Instituta fiziologii zhivotnykh (dir. kandidat biologicheskikh nauk P.G.Bogach) pri Kiyevskom universitete. Predstavlena deystvitel'nym chlenom AMN SSSR D.N.Nasonovym

(PHENOL, eff.
determ of eff. on CNS, EEG, electronic potentials in simplest reflex arch)
(CENTRAL NERVOUS SYSTEM, eff. of durgs on
phenol, EEG, electronic potentials in simplest reflex arch)
(ELECTROENCEPHALOGRAPHY
electronic potentials in simplest reflex arch in determ. of phenol eff. on CNS)

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KOSTYUK, P.G.

Electrotonic potentials in the simplest reflex arch in strychnine poisoning. Biul.eksp.biol. i med. 41. no.4:3-7 Ap '56. (MLRA 9:8)

1. Iz otdela obshchey fiziologii (zav. chlen-korrespondent AN USSR D.S.Vorontsov) Instituta fiziologii zhivotnykh (dir. kandidat biologicheskikh nauk P.G.Bogach) pri Kiyevskom gosudarstvennom universitete. Predstavlena deystvitel'nym chlenom AMN SSSR D.N.Nasonovym.

(REFLEX,
electrotonic potentials in simple reflex arch in strychnine pois. in cats (Rus))
(POISONING, experimental,
strychnine, electrotonic potentials in simple reflex arch in cats (Rus))
(STRYCHNINE, poisoning,
exper., electrotonic potentials in simple reflex arch in cats (Rus))

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sion phase in about 10 m/sec. The examination of the stimulative processes of M, which produced an efferent flow, were conducted after a preliminary tetanic irritation of the corresponding muscle nerve. Such a tetanization produced a strong and prolonged augmentation in the effectiveness of the central afferent terminals' synaptic action. A subsequent individual but equally strong irritation of the same nerve produced a flow within the larger portion of the motor neurons in the nucleus

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USSR/Human and Animal Physiology. Nervous System. Spinal Cord. T-10

Abs Jour: Ref Zhur-Biol., No 12, 1958, 56004.

Author : Kostyuk, P.G.
Inst : University of Kiev.
Title : The Development of Stimulative Processes in Super- and Subthreshold-Stimulated Motor Neurons of the Spinal Cord.

Orig Pub: Nauk. zap. Kiivs'k. un-t, 1956, 15, No 12, 29-44.

Abstract: The stimulative processes of locally stimulated motor neurons (M) of the spinal cord in cats were examined by applying an irritant of such intensity to the muscle nerve that it would produce a threshold effect on the development of the monosynaptic efferent flow of M by causing afferent impulses in the first group

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KOSTYUK, P.G.

"INTRACELLULAR RECORDING OF POTENTIALS OF [illegible] PLATE IN REPEATED STIMULATIONS"

pp. [illegible], Reports given at the [illegible] Congress of Physiologists, Brussels, [illegible]

Translation [illegible]

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Name: KOSTYUK, Platon Grigor'yevich

Dissertation: Central Processes in the Simplest Reflector Arc

Degree: Doc Biol Sci

Affiliation: [Not indicated]

Defense Date, Place: 15 Oct 56, Council of Kiev State U imeni Shevchenko

Certification Date: 8 Jun 57

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Kostyuk, P.G.

EXCERPTA MEDICA Sec.2 Vol.9/11 Physiology,etc. Nov56

5186. KOSTYUK P.G. Shevtchenko Inst. of Animal Physiol., Kiev Univ., Kiev. *Investigation of the conduction of excitation in muscle by means of intracellular recordings of action potentials DOKLADY AKAD. NAUK SSSR 1955, 105/4 (858-861) (Russian text)

An isolated frog muscle (M. sartorius) was stimulated electrically (directly or indirectly) and action potentials from single fibres (by means of inserted glass microelectrodes) were recorded. The chief findings were as follows: (1) the rate of conduction of excitation for the majority of fibres was 2.5-4 m./sec., but there were some fibres with a rate of 0.8-1.5 m./sec.; (2) the absolute refractory period was 3.7-5.0 m./sec. for rapidly conducting fibres and 10-18 m./sec. for slowly conducting fibres of both curarized and normal muscle; (3) the relative refractory period was 10-15 m./sec. for rapidly conducting fibres and 30 m./sec. (and over) for slowly conducting fibres of the curarized muscle. Wyrwicka - Lódź

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KOSTYUK, P. G.

✓ Effect of potassium ions on the processes of stimulation and depression of the bineural and reflex arcs. P. G. Kostyuk (T. G. Shevchenko Univ., Kiev). *Fiziol. Zhur., Akad. Nauk Ukr. R.S.R.* 1, No. 3, 27-35(1955)(Russian summary, 35-6).—A study was made of the effect of local influences produced by KCl on the VII lumbar and I sacral segments of the spinal cord in decerebrated cats, on the bineuron-reflex reactions following the stimulation of the afferent fibers of the gastrocnemius nerve, and on the inhibition of such reactions with a single stimulation of the nerve by muscle antagonists. The bineuron-reflex reaction substantially increased following the stimulation of the muscle-nerve apparatus. Such effects were observed equally in the flexor and extensor muscles, pointing to the absence of any selectivity with regard to the cerebrospinal elements. Along with the reactions of the anterior rootlets the reciprocal discharges of the posterior rootlets were also increased. A characteristic manifestation in conditions of profound KCl effect was the appearance of single synaptic reactions, apparently related to the increased local process of depolarization. Prolonged action of KCl resulted in a weakening of all reflex reactions, including the primary inhibition influences of the bineuron-reflex reaction, so that longer intervals between and more intensive stimulations were required to bring the reflex into evidence, but the ability to respond was never completely obliterated. Under the effects of KCl, secondary retardation manifested no weakening and in some instances even increased in repeat experiments. The effects produced by $CaCl_2$ were of an opposite nature, indicating that the effects produced by KCl are due to K ion and not the Cl ion. B. S. L.

MD

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Inst. of Animal Physiol., State Univ. of Kiev. "Effect of antidromic impulses on the extensor reflex (Russian text) FIZIOL. ZHURN. SSSR 1954, 40/2 (174-182) Illus. 5

In decerebrated and spinal cats antidromic electric shocks applied to the central end of the previously cut 7th anterior root first decrease and later increase the reflex response to orthodromic stimulation of the peripheral nerve of the gastrocnemius muscle.

Simonson-Minneapolis

SO: EXCERPTA MEDICA - Section II, Vol. 7, No. 12

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KOSTYUK, P.G.

Posttetanic changes in the reflex reactions of the motor cells of the spinal cord. Vop. fiziol. no.10:58-71 '54 (MLRA 10:5)

1. Institut fiziologii zhivotnykh pri Kiyevskom gosudarstvennom universitete.
(REFLEXES) (TETANY)

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1. Institute of Animal Physiology at Kiev State University.

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Nature of nerve processes in motor neurons of the spinal cord. Dokl. AN SSSR 85 No. 3, 1952.

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Adaptation in nerves. Report 2: Changes in adaptation caused by narcotics. Nauk.zap.Kiev.un.8 no.7:111-127 '50 [i.e.'49].(MLRA 9:10)

1.Sektor obshchey fiziologii.
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KOSTYUK, P.G.

Adaptation in nerves. Report I:Changes in adaptation caused by temperature, K and Ca ions, and electrical polarization. Nauk.zap.Kiev.un. 8 no.7: 93-110 '50 [i.e.'49]. (MLRA 9:10)

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[Electrochemistry of solutions] Elektrokhimiia rastvorov. Khar'kov, Izd-vo Khar'kovskogo gos.univ., 1959. 957 p. (MIRA 12:8)

1. Chlen-korrespondent Akademii nauk USSR (for Izmaylov). (Electrochemistry) (Solution (Chemistry))

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[Inspection of economic and financial activities of agricultural enterprises]Reviziia khoziaistvennoi i finansovoi deiatel'nosti sel'skokhoziaistvennykh predpriiatii. Minsk, Gos. izd-vo BSSR, 1960. 90 p. (MIRA 14:11)
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[Computing and accounting for collective farm profits] Ischislenie i uchet dokhodnosti kolkhozov. Minsk, Izd-vo Belgosun, im. V.I.Lenina, 1960. 63 p. (MIRA 13:10)
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KOSTYUK, P., doktor biolog.nauk, prof.

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Use of an alternating current amplifier in signaling devices for strong earthquakes. Kat. karp. zemletrus. no.1:39-42 '58. (MIRA 15:9)

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KULEBAKIN, V.S., akademik, otv. red.; PETROV, B.N., akademik, otv. red.; BODNER, V.A., doktor tekhn. nauk, red.; VORONOV, A.A., doktor tekhn. nauk, red.; IVAKHNENKO, A.G., red.; ISHLINSKIY, A.Yu., akademik, red.; KOSTYUK, O.M., kand. tekhn. nauk, red.; KRASSOV, I.M., kand. tekhn. nauk, red.; KUNTSEVICH, V.M., kand. tekhn. nauk, red.; KUKHTENKO, A.I., red.; RYABOV, B.A., doktor tekhn. nauk, red.; SIMONOV, N.I., doktor fiz.-mat. nauk, red.; ULANOV, G.M., doktor tekhn. nauk, red.; FEDOROV, S.M., kand. tekhn. nauk, red.; TSYPKIN, Ya.Z., doktor tekhn. nauk, red.; CHINAYEV, P.I., kand. tekhn. nauk, red.; KRUTOVA, I.N., kand. tekhn. nauk, red.; RUTKOVSKIY, V.Yu., kand. tekhn. nauk, red.

[Invariancy theory in automatic control systems; transactions] Teoriia invariantnosti v sistemakh avtomaticheskogo upravleniia; trudy. Moskva, Nauka, 1964. 503 p. (MIRA 18:2)

1. Vsesoyuznoye soveshchaniye po teorii invariantnosti i yeye primeneniyu v avtomaticheskikh ustroystvakh. 2d, Kiev, 1962. 2. Chlen-korrespondent AN Ukr.SSR (for Ivakhnenko, Kukhtenko).

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KOSTYUK, O.M.

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KOSTYUK, O.M.

Classification of automatic control systems according to control principles. Avtomatyka 8 no.4:88-94 '63. (MIRA 16:10)

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KOSTYUK, C.M., kand. tekhn. nauk; RYBENSKIY, [illegible], [illegible]; [illegible],
L.[illegible], doktor tekhn. nauk

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KOSTYUK, O.M. (Kiyev)

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(Automatic control)

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KOSTYUK, O.M. (Kiyev)

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(Automatic control)
(Electric machinery, Synchronous)

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