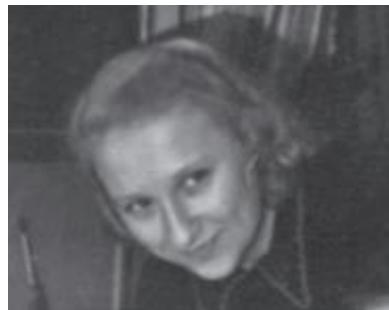


Светлана Михайловна Аваева



(23 сентября 1926 – 12 августа 2017)

Светлана Михайловна родилась в Москве в семье Михаила Григорьевича и Марии Ивановны Аваевых, преподавателей Тимирязевской сельскохозяйственной Академии. С 1944 до 1949 года училась на Химическом факультете МГУ, затем там же в аспирантуре у Марии Моисеевны Ботвинник (защитила кандидатскую диссертацию «Синтез, свойства и взаимные превращения N-пептидов, O-пептидов и N-пептидов серина» в 1953).

Всю жизнь Светлана Михайловна проработала на химфаке МГУ, до 1963 – на кафедре органической химии, а с 1965 года – на кафедре химии природных соединений. С 1969 года заведовала лабораторией химии белка и одновременно сектором химии белка Межфакультетской проблемной лаборатории им. А.Н. Белозерского (1969–1989). В 1973 году защитила докторскую диссертацию "Исследование структуры и механизма действия неорганической пирофосфатазы из дрожжей". С 1971 года – член Российской биохимического общества, в 1984 году удостоена, совместно с коллегами, Государственной премии СССР за цикл работ «Химические основы биологического катализа» (1964–1982). В 2000 году Светлане Михайловне было присвоено звание «Заслуженный научный сотрудник МГУ».

В 1960-х С.М. Аваева продолжала начатые в кандидатской диссертации исследования в области пептидов серина, позднее начала заниматься серилпирофосфатами. Ею с сотрудниками были разработаны методы синтеза дисерилпирофосфатов, изучены свойства этих соединений и их производных. С конца 1960-х группе С.М. Аваевой начали заниматься также щелочной фосфатазой *E.coli* и неорганической пирофосфатазой из дрожжей (эти ферменты играют важную роль в регуляции процессов энергетического обмена). На протяжении многих лет проводилось широкомасштабное изучение строения, механизма действия и путей регуляции неорганических пирофосфатаз. В том числе, выполнялись работы по кристаллизации с привлечением рентгеноструктурного анализа и по кинетике ферментативных реакций. Некоторые обобщения сделаны в обзоре С.М. Аваевой и Т.И. Назаровоу «Структура и особенности функционирования неорганической пирофосфатазы пекарских дрожжей» (Успехи биологической химии, 1985, 26, 42-63). С конца 1980-х возникла тематика, связанная с разработкой методов анализа вирусов у сельскохозяйственных растений – результаты этих работ поддержаны патентами.

С 1965 по 1989 Светлана Михайловна читала спецкурс «Химия белка» для студентов, специализирующихся по кафедре химии природных соединений химического факультета МГУ.

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Ранние работы, не отраженные в WebofScience

1. Ботвиник М.М., Аваева С.М., Одинец В.А., Яшунский В.Г. // Ученые записки МГУ. 1951. Т. 151. С. 325.
2. Ботвиник М.М., Аваева С.М. // ДАН СССР. 1952. Т. LXXXIV. № 5. С. 951.
3. Ботвиник М.М., Аваева С.М., Ми стрюков Э.А. // ЖОХ. 1954. Т. 24. Вып. 11. С. 2084.
4. Ботвиник М.М., Аваева С.М., Ми стрюков Э.А. // ЖОХ. 1953. Т. 23. С. 1716.
5. Ботвиник М.М., Аваева С.М. // ЖОХ. 1956. Т. 26. С. 2329.
6. Ботвиник М.М., Аваева С.М., Коновалова М.И., Остославская В.И. // ЖОХ. 1957. Т. 27. Вып. 7. С. 1910.
7. Ботвиник М.М., Аваева С.М., Кара-Мурза С.Н. // Вопросы медицинской химии. 1959. 5. Вып. 2. С. 102.
8. Ботвиник М.М., Аваева С.М., Кокшарова Л.М., Оладкина В.А. // ЖОХ. 1960. Т. 30. Вып. 12. С. 3877.
9. Ботвиник М.М., Кара-Мурза С.Н., Аваева С.М. // ДАН СССР. 1964. Т. 156. № 1. С. 88. 25.
10. Ботвиник М.М., Аваева С.М., Кокшарова Л.М., Оладкина В.А. // ЖОХ. 1960. Т. 30. Вып. 12. С. 3883.
11. Аваева С.М., Ботвиник М.М., Сыромятникова И.Ф. // Вестн. Моск. ун-та. 1965. № 3. С. 78.
12. Аваева С.М., Кара-Мурза С.Н., Ботвиник М.М. // ЖОХ. 1966. Т. 36. Вып. 8. С. 1509.
13. Аваева С.М., Сыромятникова И.Ф., Грищенко В.М., Ботвиник М.М. // ХПС. Сер. 2. 1967. С. 126.
14. Аваева С.М., Кара-Мурза С.Н., Раськова Н.В., Ботвиник М.М. // ХПС. 1967. № 5. С. 328.

Основные статьи, отраженные в WebofScience

15. BOTVINIK, MM; AVAEVA, SM; MISTRYUKOV, EA.
SINTEZ N,O-PEPTIDOV SERINA
ZHURNAL OБSHCHEI KHIMII 23(6), 971 (1953)

16. BOTVINIK, MM; AVAEVA, SM.
PROPERTIES OF O-PEPTIDES OF BETA-HYDROXYAMINO ACIDS - THE FERMENTATIVE PRODUCTION OF PEPTIDES FROM O-PEPTIDES OF BETA-HYDROXYAMINOACIDS
DOKLADY AKADEMII NAUK SSSR 112(6), 1053 (1957)

17. AVAEVA, S; MELLANDER, O; STRID, L; FOLSCH, G.
DISERYLPHOSPHATES AND SERYL PYROPHOSPHATES - SOME PROPERTIES OF O-PYROPHOSPHORYL-SERINE
PEPTIDES
ACTA CHEMICA SCANDINAVICA 17(10), 2718 (1963)
18. AVAEVA, SM; BOTVINIK, MM; VAFINA, MG; MATYAZH, LF.
SERIL-FOSFATY I SERIL-PIROFOSFATY. 2. POVEDENIE BIS(METILOVOGO EFIRA N-KARBOBENZOKSISERIL)-
FENILFOSFATA V RASTVORE HBR V ORGANICHESKIKH RASTVORITELYAKH
ZHURNAL OBSCHEI KHIMII 34(6), 1754 (1964)
19. AVAEVA, SM; BOTVINIK, MM; SYROMYATNIKOVA, IF.
SERIL-FOSFATY I SERIL-PIROFOSFATY. 1. SINTEZ P1P2-DI(BENZILOVOGO EFIRA N-KARBOBENZOKSISERIL)-
P1P2-DIBENZILPIROFOSFATA I P1P2-DI(METILAMIDA N-BENZOILSERIL)-P1P2-DIBENZILPIROFOSFATA
ZHURNAL OBSCHEI KHIMII 34(6), 1749 (1964)
20. STEPHANO.VM; VAKHITOV.EA; EGOROV, CA; AVAEVA, SM.
SEQUENCE OF AMINO ACIDS SURROUNDING PHOSPHOSERINE RESIDUE IN HOG PEPSIN
BIOCHIMICA ET BIOPHYSICA ACTA 110(3), 632 (1965)
21. AVAEVA, S. M.; KARA-MURZA, S. N.; BOTVINIK, M. M..
GIDROLIZ SERILPIROFOSFATOV NEORGANICHESKOI PIROFOSFATAZOI DROZHZHEI
BIOKHIMIYA 32((2)), 205 (1967)
22. AVAEVA, S M; BRAGA, E A; EGOROV, A M.
O SUSHCHESTVOVANII SUB"EDINTS V MOLEKULE NEORGANICHESKOI PRIOFOSFATAZY DROZHZHEI.
BIOFIZIKA 13(6), 1126 (1968)
23. AVAEVA, SM; SKLYANKI.VA; BOTVINIK, MM.
SERYL PHOSPHATES AND SERYL PYROPHOSPHATES INTERACTION OF PHOSPHATE AND AMINE GROUPS IN
DISERYL PYROPHOSPHATE
JOURNAL OF GENERAL CHEMISTRY USSR 39(3), 559 (1969)
24. AVAEVA, SM; RASKOVA, NV; BOTVINIK, MM.
HYDROLYSIS OF NORMAL BENZOYL-ORTHO-PYROPHOSPHOSERINE METHYLAMIDE
VESTNIK MOSKOVSKOGO UNIVERSITETA SERIYA 2 KHIMIYA 11(1), 96 (1970)
25. AVAEVA, SM; NAZAROVA, TI.
INTERACTION OF YEAST INORGANIC PYROPHOSPHATASE WITH INORGANIC PHOSPHATE, LABELED
RADIOACTIVE PHOSPHOR
KHIMIYA PRIRODNYKH SOEDINENII (2), 243 (1970)
26. AVAEVA S M; MEVKH A T.
FORMATION OF THE INTERMEDIATE COMPOUND IN YEAST INORGANIC PYROPHOSPHATASE SUBSTRATE
HYDROLYSIS
BIOKHIMIYA 35(3), 552 (1970)
27. AVAEVA, SM; NAZAROVA, TI; VOROBEVA, NN.
INTERACTION OF INORGANIC PYROPHOSPHATASE OF YEAST WITH DIISOPROPYLFLUOROPHOSPHATE
BIOKHIMIYA 35(6), 1113 (1970)

28. AVAEVA, SM; SKLYANKI.VA; KOLESNIK.VY.
HYDROLYSIS OF PHOSPHORIC ESTER SERINE DERIVATIVES CONTAINING AMINO AND CARBOXYLIC GROUPS
VESTNIK MOSKOVSKOGO UNIVERSITETA SERIYA 2 KHIKIYA 12(5), 627 (1971)
29. AVAEVA, SM; SKLYANKI.VA.
HYDROLYSIS PROPERTIES OF O-PHOSPHOSERINE METHYL ESTER
ZHURNAL OSHCHEI KHMII 41(9), 2081 (1971)
30. BAYKOV, AA; AVAEVA, SM; BRAGA, EA.
KINETIC STUDY OF ACTIVATION OF YEAST INORGANIC PYROPHOSPHATASE BY MAGNESIUM
FEBS LETTERS 21(1), 80 (1972)
31. AVAEVA, SM; BARATOVA, LA; SKLYANKINA, VA; KOLESNIKOVA, VY.
CHROMATOGRAPHIC SEPARATION OF BETA-METHYLDIAMINOPROPIONIC ACID IN HYDROLYSATES OF
MODIFIED PHOSPHOPROTEINS IN AN AMINO-ACID ANALYZER
JOURNAL OF CHROMATOGRAPHY 70(1), 162 (1972)
32. AVAEVA, SM; BEISEMBA.RU; LEBEDEVA, ZI; EGOROV, AM.
SUBUNIT STRUCTURE OF INORGANIC PYROPHOSPHATASE FROM YEAST
FEBS LETTERS 24(2), 169 (1972)
33. BRAGA, EA; AVAEVA, SM.
INTERACTION OF YEAST INORGANIC PYROPHOSPHATASE WITH BIVALENT CATIONS AND PYROPHOSPHATE
FEBS LETTERS 27(2), 251 (1972)
34. BRAGA, EA; AVAEVA, SM.
INTERACTION OF YEAST INORGANIC PYROPHOSPHATASE WITH BIVALENT CATIONS AND PYROPHOSPHATE
FEBS LETTERS 27(2), 251 (1972)
35. BRAGA, E; AVAEVA, S.
ACTIVATION OF YEAST INORGANIC PYROPHOSPHATASE BY MAGNESIUM
BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS 49(2), 528 (1972)
36. NAZAROVA, TI; AVAEVA, SM; FINK, NY.
PHOSPHOHISTIDINE AS RESULT OF PHOSPHATE MIGRATION IN PHOSPHORYLATED INORGANIC
PYROPHOSPHATASE FROM YEAST
FEBS LETTERS 20(2), 167 (1972)
37. NASAROVA, TI; AVAEVA, SM.
REACTION OF YEAST INORGANIC PYROPHOSPHATASE WITH RADIOACTIVE INORGANIC-PHOSPHATE AND
PYROPHOSPHATE
BIOKHIKIYA 38(1), 169 (1973)
38. SHAFRANS.YA; AVAEVA, SM.
HEAT INACTIVATION OF YEAST INORGANIC PYROPHOSPHATASE
BIOKHIKIYA 38(6), 1248 (1973)
39. SKLYANKI.VA; MEDVEDEV.IV; AVAEVA, SM.
PARTICIPATION OF LYSIN RESIDUES OF YEAST INORGANIC PYROPHOSPHATASE IN MANIFESTATION OF

ENZYMATIC-ACTIVITY

DOKLADY AKADEMII NAUK SSSR 211(2), 494 (1973)

40. SHAFRANS.YA; BRAGA, EA; AVAEVA, SM.

KINETIC OF HYDROLYSIS OF ATP BY YEAST INORGANIC PYROPHOSPHATASE

BIOKHIMIYA 38(2), 417 (1973)

41. BRAGA E A; BAIKOV A A; AVAEVA S M.

THE ROLE OF MAGNESIUM IONS IN PYRO PHOSPHATE HYDROLYSIS BY YEAST INORGANIC PYRO

PHOSPHATASE

BIOCHEMISTRY (MOSCOW) 38(2 PT 2), 282 (1973)

42. BAYKOV, AA; AVAEVA, SM.

REGULATION OF YEAST INORGANIC-PYROPHOSPHATASE ACTIVITY BY DIVALENT CATIONS

EUROPEAN JOURNAL OF BIOCHEMISTRY 32(1), 136 (1973)

43. BAIKOV, AA; ROMANOV, LV; AVAEVA, SM.

EFFECT OF PH ON PYROPHOSPHATE HYDROLYSIS CATALYZED BY YEAST INORGANIC PYROPHOSPHATASE

BIOKHIMIYA 38(3), 478 (1973)

44. KOLESNIKOVA, VY; SKLYANKI.VA; BARATOVA, LA; NAZAROVA, TI; AVAEVA, SM.

MODIFICATION OF O-PHOSPHOSERINE RESIDUES IN PHOSPHOPROTEINS

BIOKHIMIYA 39(2), 287 (1974)

45. BAIKOV, AA; AVAEVA, SM.

EFFECT OF DIVALENT-CATIONS ON ATP HYDROLYSIS CATALYZED BY YEAST-INORGANIC PYROPHOSPHATASE

BIOKHIMIYA 39(2), 342 (1974)

46. BAYKOV, AA; AVAEVA, SM.

YEAST INORGANIC PYROPHOSPHATASE - STUDIES ON METAL BINDING

EUROPEAN JOURNAL OF BIOCHEMISTRY 47(1), 57 (1974)

47. PLAKSINA, EA; SKLYANKINA, VA; MEVKH, AT; AVAEVA, SM.

PROPERTIES OF YEAST INORGANIC PYROPHOSPHATASE IMMOBILIZED ON SEPHAROSE

BIOORGANICHESKAYA KHIMIYA 1(4), 558 (1975)

48. SKLYANKINA, VA; SURANOVA, ED; AVAEVA, SM.

ACTIVE-SITE LYSINE IN YEAST INORGANIC PYROPHOSPHATASE

BIOORGANICHESKAYA KHIMIYA 1(9), 1352 (1975)

49. SHAFRANSKII, YA; AVAEVA, SM; KOTELNIKOV, AI.

STUDY OF YEAST INORGANIC PYROPHOSPHATASE PROPERTIES USING SPIN-LABELED PARA-CHLOROMERCUBROBENZAMIDE

BIOORGANICHESKAYA KHIMIYA 1(2), 203 (1975)

50. LEBEDEVA, ZI; AVAEVA, SM.

DETECTION OF O-GLYCOSIDIC BOND IN YEAST INORGANIC PYROPHOSPHATASE BY METHYLAMINE REACTION

BIOORGANICHESKAYA KHIMIYA 1(3), 416 (1975)

51. KASHO, VN; BAYKOV, AA; AVAEVA, SM.
DISTRIBUTION OF INORGANIC PYROPHOSPHATASE IN SOME MARINE INVERTEBRATES OF JAPAN SEA
COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR BIOLOGY 52(2), 245
(1975)
52. FINK, NY; NAZAROVA, TI; AVAEVA, SM.
INHIBITING OF INORGANIC PYROPHOSPHATASE FROM YEAST BY GLYCINE METHYL-ESTER AND
HYDROXYLAMINES
KHIMIYA PRIRODNYKH SOEDINENII (2), 235 (1975)
53. FINK, NY; NAZAROVA, TI; AVAEVA, SM.
ACTIVATED CARBOXYL GROUP OF YEAST INORGANIC PYROPHOSPHATASE
BIOORGANICHESKAYA KHIMIYA 1(2), 275 (1975)
54. BAIKOV, AA; KASHO, VN; AVAEVA, SM.
PURIFICATION AND SOME PROPERTIES OF INORGANIC PYROPHOSPHATASE FROM HEPATOPANCREAS OF
HALOCYNTHIA-AURANTHIUM
BIOORGANICHESKAYA KHIMIYA 1(4), 532 (1975)
55. AVAEVA, SM; KRASNOVA, VI.
DIETHYLPYROCARBONATE REACTION WITH IMIDAZOLE AND HISTIDINE DERIVATIVES
BIOORGANICHESKAYA KHIMIYA 1(11), 1600 (1975)
56. LEBEDEVA, ZI; BARATOVA, LA; AVAEVA, SM; MEDVEDEVA, IV; MIRZAYANOVA, MN; KHORLIN, AY.
NEW APPROACH TO SELECTIVE CLEAVAGE OF ALKALI LABILE CARBOHYDRATE-PROTEIN LINKAGE IN
GLYCOPROTEINS
BIOORGANICHESKAYA KHIMIYA 1(7), 923 (1975)
57. BAYKOV, AA; ARTJUKOV, AA; AVAEVA, SM.
FLUORIDE INHIBITION OF INORGANIC PYROPHOSPHATASE .1. KINETIC STUDIES IN A MG²⁺-PPI SYSTEM
USING A NEW CONTINUOUS ENZYME ASSAY
BIOCHIMICA ET BIOPHYSICA ACTA 429(3), 982 (1976)
58. BAKULEVA, NP; NAZAROVA, TI; AVAEVA, SM.
CARBOXYLIC GROUP AS A ACCEPTOR OF PHOSPHATE IN YEAST INORGANIC PYROPHOSPHATASE
VESTNIK MOSKOVSKOGO UNIVERSITETA SERIYA 2 KHIMIYA 17(5), 626 (1976)
59. KUZNETSOV, AV; AVAEVA, SM; BAYKOV, AA; SKLYANKINA, VA.
O-PYROPHOSPHOETHANOLAMINE - NEW SUBSTRATE OF YEAST INORGANIC PYROPHOSPHATASE -
SYNTHESIS AND SUBSTRATE PROPERTIES
BIOORGANICHESKAYA KHIMIYA 3(7), 950 (1977)
60. BAYKOV, AA; ARTJUKOV, AA; AVAEVA, SM.
FLUORIDE INHIBITION OF INORGANIC PYROPHOSPHATASE .3. DEPENDENCE ON NATURE OF SUBSTRATE
AND METAL-ION COFACTOR
BIOCHIMICA ET BIOPHYSICA ACTA 481(1), 195 (1977)
61. BAYKOV, AA; BAKULEVA, NP; NAZAROVA, TI; AVAEVA, SM.
FLUORIDE INHIBITION OF INORGANIC PYROPHOSPHATASE .2. ISOLATION AND CHARACTERIZATION OF A

COVALENT INTERMEDIATE BETWEEN ENZYME AND ENTIRE SUBSTRATE MOLECULE
BIOCHIMICA ET BIOPHYSICA ACTA 481(1), 184 (1977)

62. AVAEVA, SM; DICKOV, MM; KUZNETSOV, AV; SKLYANKINA, VA.
SPECIFIC MODIFICATION OF YEAST INORGANIC PYROPHOSPHATASE ACTIVE-SITE BY N-CHLOROACETYLPHOSPHOETHANOLAMINE
BIOORGANICHESKAYA KHIMIYA 3(7), 943 (1977)
63. AVAEVA, SM; BAKULEVA, NP; BARATOVA, LA; NAZAROVA, TI; FINK, NY.
ESSENTIAL ACTIVATED CARBOXYL GROUP OF INORGANIC PYROPHOSPHATASE
BIOCHIMICA ET BIOPHYSICA ACTA 482(1), 173 (1977)
64. KUZNETSOV, AV; SKLYANKINA, VA; AVAEVA, SM.
NON-EQUIVALENT BEHAVIOR OF 2 CHEMICALLY IDENTICAL SUBUNITS OF BAKERS-YEAST INORGANIC PYROPHOSPHATASE
BIOORGANICHESKAYA KHIMIYA 4(7), 984 (1978)
65. KASHO, VN; AVAEVA, SM.
ISOLATION OF INORGANIC PYROPHOSPHATASE FROM BREWERS-YEAST AND STUDIES ON LOCALIZATION OF THIS ENZYME IN BREWERS AND BAKERS-YEAST
INTERNATIONAL JOURNAL OF BIOCHEMISTRY 9(1), 51 (1978)
66. KASHO V N; DUZHENKO V S; AVAEVA S M.
CATALYTIC PROPERTIES OF 3 ISO ENZYMES POSSESSING PYRO PHOSPHATASE ACTIVITY FROM BREWERS YEAST
BIOKHIMIYA 43(1), 50 (1978)
67. SVYATO, IE; SKLYANKINA, VA; AVAEVA, SM.
INACTIVATION OF INORGANIC YEAST PYROPHOSPHATAZE BY O-PHOSPHOSERINE AND ITS METHYL-ETHER
VESTNIK MOSKOVSKOGO UNIVERSITETA SERIYA 2 KHIMIYA 20(5), 479 (1979)
68. KUZNETSOV, AV; SKLYANKINA, VA; AVAEVA, SM.
SOME FEATURES OF INHIBITION OF INORGANIC YEAST PYROPHOSPHATASE BY ORTHO-PHOSPHOETHANOLAMINE
BIOORGANICHESKAYA KHIMIYA 5(9), 1396 (1979)
69. BAYKOV, AA; TAMVILLOSLADO, JJ; AVAEVA, SM.
FLUORIDE INHIBITION OF INORGANIC PYROPHOSPHATASE .4. EVIDENCE FOR METAL PARTICIPATION IN THE ACTIVE-CENTER AND A 4-SITE MODEL OF METAL EFFECT ON CATALYSIS
BIOCHIMICA ET BIOPHYSICA ACTA 569(2), 228 (1979)
70. AVAEVA, SM; VOROBJEVA, NN; MELNIK, MS; NAZAROVA, TI.
REACTION BETWEEN ASPARTIC-ACID OF THE ACTIVE-SITE OF INORGANIC YEAST PYROPHOSPHATASE WITH HYDROXYLAMINE AND SODIUM-BOROHYDRIDE
BIOORGANICHESKAYA KHIMIYA 5(10), 1570 (1979)
71. AVAEVA S M; PLAKSINA E A; SKLYANKINA V A.
RECONSTRUCTION OF CATALYTICALLY ACTIVE ENZYME FROM SUBUNITS OF YEAST INORGANIC PYRO

PHOSPHATASE

BIOKHIMIYA 44(6), 1080 (1979)

72. LAGUTINA, IO; SKLYANKINA, VA; AVAEVA, SM.

AFFINITY MODIFICATION OF INORGANIC PYROPHOSPHATASE FROM YEAST BY METHYL PHOSPHATE

BIOCHEMISTRY-MOSCOW 45(9), 1187-1193 (1980)

73. KLYACHKO, NL; BAYKOV, AA; LEVASHOV, AV; MARTINEK, K; AVAEVA, SM.

CATALYSIS BY ENZYMES INCORPORATED INTO REVERSED MICELLES OF SURFACTANTS IN ORGANIC-SOLVENTS .2. INORGANIC BAKERS-YEAST PYROPHOSPHATASE SOLUBILIZED IN CYCLOHEXANE WITH THE AID OF BRIJ 56

BIOORGANICHESKAYA KHIMIYA 6(11), 1707-1713 (1980)

74. ELYAKOVA, LA; SHEVCHENKO, NM; AVAEVA, SM.

A COMPARATIVE-STUDY OF CARBOHYDRASE ACTIVITIES IN MARINE-INVERTEBRATES

COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR BIOLOGY 69(4), 905-908 (1981)

75. PLAKSINA, EA; SERGIENKO, OV; SKLYANKINA, VA; AVAEVA, SM.

PREPARATION OF IMMOBILIZED DIMER AND MONOMER OF INORGANIC PYROPHOSPHATASE AND EVIDENCE FOR SUBUNIT CATALYTIC ACTIVITY

BIOORGANICHESKAYA KHIMIYA 7(3), 357-364 (1981)

76. VOLK, SE; BAIKOV, AA; AVAEVA, SM.

COMPARISON OF THE EFFECTIVENESS OF METAL ACTIVATORS OF INORGANIC PYROPHOSPHATASE

BIOCHEMISTRY-MOSCOW 46(1), 25-30 (1981)

77. BAKULEVA, NP; KOSTENKO, EB; BAIKOV, AA; AVAEVA, SM.

DETECTION AND CHARACTERIZATION OF THE SUPPLEMENTARY SITE OF ADDITION OF THE SUBSTRATE AND ITS ANALOGS IN INORGANIC PYROPHOSPHATASE

BIOCHEMISTRY-MOSCOW 46(5), 682-688 (1981)

78. BAKULEVA, NP; BAIKOV, AA; AVAEVA, SM.

A STABLE COMPOUND OF INORGANIC PYROPHOSPHATASE WITH PYROPHOSPHATE, OBTAINED BY THE REACTION OF PHOSPHATE IN THE PRESENCE OF FLUORIDE

BIOCHEMISTRY-MOSCOW 46(9), 1327-1332 (1981)

79. BAKULEVA, NP; NAZAROVA, TI; BAYKOV, AA; AVAEVA, SM.

THE PHOSPHORYLATION OF YEAST INORGANIC PYROPHOSPHATASE AND FORMATION OF STOICHIOMETRIC AMOUNTS OF ENZYME-BOUND PYROPHOSPHATE

FEBS LETTERS 124(2), 245-247 (1981)

80. A SIMPLE AND SENSITIVE APPARATUS FOR CONTINUOUS MONITORING OF ORTHO-PHOSPHATE IN THE PRESENCE OF ACID-LABILE COMPOUNDS

ANALYTICAL BIOCHEMISTRY 116(1), 1-4 (1981)

81. PLAKSINA, EA; SOLOPANOVA, EY; SVYATO, IE; SKLYANKINA, VA; AVAEVA, SM.

IMPORTANCE OF THE QUATERNARY STRUCTURE FOR AFFINITY INHIBITION OF YEAST INORGANIC

PYROPHOSPHATASE

BIOORGANICHESKAYA KHIMIYA 8(2), 191-194 (1982)

82. PLAKSINA, EA; KOLOMIICHENKO, GV; SKLYANKINA, VA; MEVKH, AT; AVAEVA, SM.

INTERACTION OF YEAST INORGANIC PYROPHOSPHATASE WITH ALKYLATED SEPHAROSE DERIVATIVES
BIOCHEMISTRY-MOSCOW 47(9), 1248-1252 (1982)

83. MELNIK, MS; NAZAROVA, TI; AVAEVA, SM.

SPECIAL FEATURES OF HYDROLYSIS OF METHYL PYROPHOSPHATE BY YEAST INORGANIC PYROPHOSPHATASE
BIOCHEMISTRY-MOSCOW 47(6), 865-870 (1982)

84. MELNIK, MS; NAZAROVA, TI; AVAEVA, SM.

METHYL PYROPHOSPHATE - THE SIMPLEST ORGANIC SUBSTRATE OF INORGANIC PYROPHOSPHATASE FROM
YEAST
BIOCHEMISTRY-MOSCOW 47(2), 275-281 (1982)

85. SERGIENKO, OV; SOLOPANOVA, EY; SKLYANKINA, VA; AVAEVA, SM.

IS THE QUATERNARY STRUCTURE OF INORGANIC YEAST PYROPHOSPHATASE REQUIRED TO FORM SPECIFIC
NON-CATALYTIC CENTERS

VESTNIK MOSKOVSKOGO UNIVERSITETA SERIYA 2 KHIMIYA 23(1), 55-58 (1982)

86. VODOVOZOVA, EL; VOROBIEVA, NN; KOMISSAROV, AA; NAZAROVA, TI; AVAEVA, SM.

PRODUCTION OF INORGANIC PYROPHOSPHATASE PREPARATIONS WITH MODIFIED ACTIVE AND
REGULATORY CENTERS

BIOORGANICHESKAYA KHIMIYA 8(2), 187-190 (1982)

87. VOROBEVA, NN; NAZAROVA, TI; BAKULEVA, NP; AVAEVA, SM; PROTASEVICH, II; PLATONOV, AL.

CALORIMETRIC STUDY OF THE INTERACTION OF YEAST INORGANIC PYROPHOSPHATASE WITH MAGNESIUM
AND PHOSPHATE IONS

BIOCHEMISTRY-MOSCOW 47(5), 616-620 (1982)

88. BAKULEVA, NP; KOMISSAROV, AA; KUZNETSOV, AV; NAZAROVA, TI; SKLYANKINA, VA; AVAEVA, SM.

TRYPTIC HYDROLYSIS OF NON-ORGANIC PYROPHOSPHATASE, MODIFIED BY PHOSPHATE AND O-
PHOSPHATE ETHANOLAMINE

KHIMIYA PRIRODNYKH SOEDINENII (3), 379-384 (1982)

89. KASHO, VN; BAKULEVA, NP; BAIKOV, AA; AVAEVA, SM.

ISOLATION AND CATALYTIC PROPERTIES OF SOLUBLE MONOMERIC FORM OF INORGANIC
PYROPHOSPHATASE FROM BAKERS-YEAST

BIOCHEMISTRY-MOSCOW 47(6), 830-834 (1982)

90. BAKULEVA, NP; KASHO, VN; BAIKOV, AA; NAZAROVA, TI; AVAEVA, SM.

COOPERATIVE MECHANISM OF THE PHOSPHORYLATION OF MONOMER AND DIMER FORMS OF INORGANIC
PYROPHOSPHATASE FROM BAKERS-YEAST

BIOCHEMISTRY-MOSCOW 47(7), 904-910 (1982)

91. KASHO, VN; BAIKOV, AA; AVAEVA, SM.

COMPARISON OF EFFECT OF FLUORIDE ON 3 PYROPHOSPHATE-HYDROLYZING ENZYMES - ACID AND

ALKALINE-PHOSPHATASE AND INORGANIC PYROPHOSPHATASE
BIOCHEMISTRY-MOSCOW 47(8), 1081-1084 (1982)

92. VOLK, SE; BAYKOV, AA; DUZHENKO, VS; AVAEVA, SM.

KINETIC-STUDIES ON THE INTERACTIONS OF 2 FORMS OF INORGANIC PYROPHOSPHATASE OF HEART-MITOCHONDRIA WITH PHYSIOLOGICAL LIGANDS
EUROPEAN JOURNAL OF BIOCHEMISTRY 125(1), 215-220 (1982)

93. BAYKOV, AA; KRASNOVA, VI; AVAEVA, SM.

CHANGES IN FUNCTIONAL-PROPERTIES OF YEAST INORGANIC PYROPHOSPHATASE DURING SH-GROUP MODIFICATION
BIOORGANICHESKAYA KHIMIYA 8(2), 195-199 (1982)

94. BAYKOV, AA; AVAEVA, SM.

A SENSITIVE METHOD FOR MEASURING PYROPHOSPHATE IN THE PRESENCE OF A 10,000-FOLD EXCESS OF ORTHO-PHOSPHATE USING INORGANIC PYROPHOSPHATASE
ANALYTICAL BIOCHEMISTRY 119(2), 211-213 (1982)

95. BAKULEVA, NP; KASHO, VN; BAIKOV, AA; AVAEVA, SM.

AN EFFECT OF ALKALI-METAL IONS ON THE INTERACTION OF THE BAKER YEAST INORGANIC PYROPHOSPHATASE WITH PHOSPHATE
VESTNIK MOSKOVSKOGO UNIVERSITETA SERIYA 2 KHIMIYA 23(4), 396-401 (1982)

96. KURILOVA, SA; NAZAROVA, TI; AVAEVA, SM.

SUBSTRATE HYDROLYSIS BY INORGANIC PYROPHOSPHATASE FROM ESCHERICHIA-COLI
BIOORGANICHESKAYA KHIMIYA 9(8), 1032-1039 (1983)

97. VENER, AV; MELNIK, MS; NAZAROVA, TI; AVAEVA, SM.

ZINC IONS AS ACTIVATORS OF INORGANIC PYROPHOSPHATASE FROM BAKING YEAST IN PHOSPHORYLATION AND PYROPHOSPHATE SYNTHESIS
BIOORGANICHESKAYA KHIMIYA 9(7), 914-919 (1983)

98. AVAEVA, SM; BAYKOV, AA; KASHO, VN; PANTELEEEVA, NS; SKVORTSEVICH, EG.

STUDIES ON THE O-18 EXCHANGE-REACTIONS CATALYZED BY DIMERIC AND MONOMERIC FORMS OF INORGANIC PYROPHOSPHATASE
BIOORGANICHESKAYA KHIMIYA 9(7), 906-913 (1983)

99. KOSTENKO, EB; SMIRNOVA, IN; BAIKOV, AA; AVAEVA, SM.

SUBCELLULAR AND SUBMITOCHONDRIAL LOCALIZATION OF INORGANIC PYROPHOSPHATASE IN THE MAMMALIAN HEART AND LIVER
BIOCHEMISTRY-MOSCOW 48(5), 609-614 (1983)

100. BAKULEVA, NP; BAYKOV, AA; KASHO, VN; NAZAROVA, TI; AVAEVA, SM.

THE FLIP-FLOP MECHANISM OF THE PHOSPHORYLATION OF YEAST INORGANIC PYROPHOSPHATASE
INTERNATIONAL JOURNAL OF BIOCHEMISTRY 15(6), 849-854 (1983)

101. VOLK, SE; BAYKOV, AA; KOSTENKO, EB; AVAEVA, SM.

ISOLATION, SUBUNIT STRUCTURE AND LOCALIZATION OF INORGANIC PYROPHOSPHATASE OF HEART AND

LIVER-MITOCHONDRIA

BIOCHIMICA ET BIOPHYSICA ACTA 744(2), 127-134 (1983)

102. KASHO, VN; AVAEVA, SM.

INORGANIC PYROPHOSPHATASE .2. PURIFICATION AND STUDIES OF SOME PROPERTIES OF THE ENZYME

ISOLATED FROM THERMOPHILIC BACTERIUM THERMUS-FLAVUS 70-K

INTERNATIONAL JOURNAL OF BIOCHEMISTRY 16(3), 315-321 (1984)

103. MELNIK, MS; NAZAROVA, TI; AVAEVA, SM.

INTERRELATION BETWEEN THE SUBSTRATE-SPECIFICITY OF YEAST INORGANIC PYROPHOSPHATASE AND THE NATURE OF ACTIVATOR METAL-ION

BIOORGANICHESKAYA KHIMIYA 10(11), 1483-1489 (1984)

104. KURILOVA, SA; NAZAROVA, TI; AVAEVA, SM.

REGULATORY CENTER IN ESCHERICHIA-COLI INORGANIC PYROPHOSPHATASE

BIOORGANICHESKAYA KHIMIYA 10(10), 1336-1341 (1984)

105. KURILOVA, SA; BOGDANOVA, AV; NAZAROVA, TI; AVAEVA, SM.

CHANGES IN THE ESCHERICHIA-COLI INORGANIC PYROPHOSPHATASE ACTIVITY ON INTERACTIONS WITH MAGNESIUM, ZINC, CALCIUM AND FLUORIDE IONS

BIOORGANICHESKAYA KHIMIYA 10(9), 1153-1160 (1984)

106. KURILOVA, SA; BOGDANOVA, AV; NAZAROVA, TI; AVAEVA, SM.

SUBSTRATES OF ESCHERICHIA-COLI INORGANIC PYROPHOSPHATASE

BIOORGANICHESKAYA KHIMIYA 10(9), 1147-1152 (1984)

107. SVYATO, IE; NAZAROVA, TI; SKLYANKINA, VA; AVAEVA, SM.

HALF-OF-THE-SITES REACTIVITY OF INORGANIC PYROPHOSPHATASE FROM YEAST IS THE RESULT OF INDUCED ASYMMETRY

FEBS LETTERS 167(2), 269-272 (1984)

108. BORSHCHIK, IB; SKLYANKINA, VA; AVAEVA, SM.

PHOSPHORIC-ACID MONOESTERS AS AFFINITY INHIBITORS OF THE ESCHERICHIA-COLI INORGANIC PYROPHOSPHATASE

BIOORGANICHESKAYA KHIMIYA 11(6), 778-783 (1985)

109. VOROBYEVA, NN; NAZAROVA, TI; AVAEVA, SM.

THE ROLE OF INORGANIC PYROPHOSPHATASE REGULATORY CENTERS IN SUBUNIT INTERACTIONS

FEBS LETTERS 183(2), 387-389 (1985)

110. VENER, AV; NAZAROVA, TI; AVAEVA, SM.

PHOSPHORYLATION AS AN ACTIVITY REGULATOR OF INORGANIC PYROPHOSPHATASE FROM BAKERS-YEAST.

2. THE REGULATORY CENTER CHARACTERISTICS

BIOORGANICHESKAYA KHIMIYA 11(6), 791-796 (1985)

111. VENER, AV; NAZAROVA, TI; AVAEVA, SM.

PHOSPHORYLATION AS AN ACTIVITY REGULATOR OF INORGANIC PYROPHOSPHATASE FROM BAKERS-YEAST.

1. ATP-INDUCED ACTIVATION OF INORGANIC PYROPHOSPHATASE

BIOORGANICHESKAYA KHIMIYA 11(6), 784-790 (1985)

112. VOROBYEVA, NN; NAZAROVA, TI; AVAEVA, SM.
CATALYTIC PROPERTIES OF INORGANIC PYROPHOSPHATASE WITH MODIFIED REGULATORY CENTERS
BIOORGANICHESKAYA KHIMIYA 11(10), 1323-1329 (1985)
113. BORSCHIK, IB; PESTOVA, TV; SKLYANKINA, VA; AVAEVA, SM.
THE QUATERNARY STRUCTURE OF ESCHERICHIA-COLI INORGANIC PYROPHOSPHATASE IS NOT REQUIRED
FOR CATALYTIC ACTIVITY
FEBS LETTERS 184(1), 65-67 (1985)
114. SVYATO, IE; SKLYANKINA, VA; AVAEVA, SM.
THE ACTIVE-SITE - A SITE OF BINDING OF AFFINITY INHIBITORS IN BAKERS-YEAST INORGANIC
PYROPHOSPHATASE
BIOCHEMISTRY-MOSCOW 50(9), 1305-1309 (1985)
115. KOMISSAROV, AA; MAKAROVA, IA; SKLYANKINA, VA; AVAEVA, SM.
A FUNCTIONALLY SIGNIFICANT LYSIN RESIDUE OF BAKERS-YEAST PYROPHOSPHATASE
BIOORGANICHESKAYA KHIMIYA 11(11), 1504-1509 (1985)
116. PAVLOV, AR; BAIKOV, AA; AVAEVA, SM.
A STUDY OF THE PYROPHOSPHATE SYNTHESIS IN THE ACTIVE-SITE OF INORGANIC PYROPHOSPHATASE
VESTNIK MOSKOVSKOGO UNIVERSITETA SERIYA 2 KHIMIYA 26(6), 608-611 (1985)
117. BORSHCHIK, IB; SULYANKINA, VA; AVAEVA, SM.
MOLECULAR-FORMS OF ESCHERICHIA-COLI INORGANIC PYROPHOSPHATASE
VESTNIK MOSKOVSKOGO UNIVERSITETA SERIYA 2 KHIMIYA 27(1), 102-103 (1986)
118. VENER, AV; ICHETOVKINA, LE; KOMISSAROV, AA; NAZAROVA, TI; AVAEVA, SM.
PHOSPHORYLATION AS A MEANS FOR REGULATING THE ACTIVITY OF ESCHERICHIA-COLI INORGANIC
PYROPHOSPHATASE .2. IDENTIFICATION OF THE TYPE OF CHEMICAL-BONDS BETWEEN PHOSPHATE AND THE
ENZYME
BIOORGANICHESKAYA KHIMIYA 12(2), 200-205 (1986)
119. VENER, AV; ICHETOVKINA, LE; NAZAROVA, TI; AVAEVA, SM.
PHOSPHORYLATION AS A MEANS OF REGULATING THE ACTIVITY OF ESCHERICHIA-COLI INORGANIC
PYROPHOSPHATASE .1. ATP-INDUCED PHOSPHORYLATION AND ACTIVATION OF THE ENZYME
BIOORGANICHESKAYA KHIMIYA 12(2), 195-199 (1986)
120. BAIKOV, AA; PAVLOV, AR; AVAEVA, SM.
REGULATORY SITE OF INORGANIC PYROPHOSPHATASE - INTERACTION WITH SUBSTRATE-ANALOGS
BIOCHEMISTRY-MOSCOW 51(2), 160-168 (1986)
121. PAVLOV, AR; BAIKOV, AA; AVAEVA, SM.
REGULATORY SITE OF INORGANIC PYROPHOSPHATASE - NONHYPERBOLIC KINETICS OF ENZYMATIC-
REACTION AT LOW SUBSTRATE CONCENTRATIONS
BIOCHEMISTRY-MOSCOW 51(2), 141-149 (1986)
122. PAVLOV, AR; BAIKOV, AA; AVAEVA, SM.
THE REGULATORY SITE OF INORGANIC PYROPHOSPHATASE - THE ROLE OF ACTIVATING METALS IN ITS

MANIFESTATION

BIOCHEMISTRY-MOSCOW 51(3), 301-309 (1986)

123. BORSHCHIK, IB; PESTOVA, TV; SKLYANKINA, VA; AVAEVA, SM.

MONOMERIC FORM OF ESCHERICHIA-COLI PYROPHOSPHATASE - REGULATORY PROPERTIES, STABILITY AND INTERACTION WITH AFFINITY INHIBITORS

BIOORGANICHESKAYA KHIMIYA 12(7), 902-905 (1986)

124. BORSHCHIK, IB; KALMYKOV, PV; CHERNYAK, VY; SKLYANKINA, VA; AVAEVA, SM.

ABSENCE OF DISSOCIATION OF INORGANIC PYROPHOSPHATASE FROM ESCHERICHIA-COLI AND ASSOCIATION OF ITS SUBUNITS IN THE COURSE OF THE ENZYMATIC-REACTION

BIOCHEMISTRY-MOSCOW 51(9), 1237-1240 (1986)

125. BORSHCHIK, IB; MAGRETOVA, NN; CHERNYAK, VY; SKLYANKINA, VA; AVAEVA, SM.

STRUCTURAL ORGANIZATION OF INORGANIC PYROPHOSPHATASE FROM ESCHERICHIA-COLI

BIOCHEMISTRY-MOSCOW 51(9), 1277-1281 (1986)

126. SMIRNOVA, IN; BAYKOV, AA; AVAEVA, SM.

STUDIES ON INORGANIC PYROPHOSPHATASE USING IMIDODIPHOSPHATE AS A SUBSTRATE

FEBS LETTERS 206(1), 121-124 (1986)

127. BORSHCHIK, IB; SKLYANKINA, VA; AVAEVA, SM.

CATALYTIC PROPERTIES AND INTERACTION WITH AFFINITY INHIBITORS OF TRIMERIC FORM OF INORGANIC PYROPHOSPHATASE FROM ESCHERICHIA-COLI

BIOCHEMISTRY-MOSCOW 51(10), 1370-1374 (1986)

128. KOMISSAROV, AA; SKLYANKINA, VA; AVAYEVA, SM.

A FUNCTIONALLY SIGNIFICANT RESIDUE OF LYSIN IN INORGANIC PYROPHOSPHATASE FROM ESCHERICHIA-COLI. 2. ISOLATION OF THE MODIFIED TRYPTIC PEPTIDE AND ITS CHARACTERISTICS - INVESTIGATION OF THE FUNCTIONAL-ROLE OF THE LYSIN RESIDUE CONTROLLING THE ENZYMATIC-ACTI

BIOORGANICHESKAYA KHIMIYA 13(5), 599-605 (1987)

129. KOMISSAROV, AA; SPANCHENKO, OV; SKLYANKINA, AA; AVAYEVA, SM.

THE FUNCTIONALLY SIGNIFICANT RESIDUE OF LYSIN IN INORGANIC PYROPHOSPHATASE FROM

ESCHERICHIA-COLI .1. INTERACTION OF INORGANIC PYROPHOSPHATASE WITH PYRIDOXAL-5'-PHOSPHATE

BIOORGANICHESKAYA KHIMIYA 13(5), 592-598 (1987)

130. BAYKOV, AA; DUBNOVA, EB; PASHKOV, AY; AVAEVA, SM.

MEMBRANE INORGANIC PYROPHOSPHATASE - DIFFERENT REACTIVITY OF SH-GROUPS IN FREE AND MEMBRANE-BOUND ENZYME

BIOLOGICHESKIE MEMBRANY 4(10), 1019-1025 (1987)

131. BAYKOV, AA; KASHO, VN; AVAEVA, SM.

INORGANIC PYROPHOSPHATASE - A NEW ENZYME LABEL FOR BIOCHEMICAL-ANALYSIS

BIOORGANICHESKAYA KHIMIYA 13(12), 1681-1682 (1987)

132. BAYKOV, AA; KASHO, VN; AVAEVA, SM.

INORGANIC PYROPHOSPHATASE AS A LABEL IN HETEROGENEOUS ENZYME-IMMUNOASSAY

ANALYTICAL BIOCHEMISTRY 171(2), 271-276 (1988)

133. BAYKOV, AA; EVTUSHENKO, OA; AVAEVA, SM.
A MALACHITE GREEN PROCEDURE FOR ORTHO-PHOSPHATE DETERMINATION AND ITS USE IN ALKALINE
PHOSPHATASE-BASED ENZYME-IMMUNOASSAY
ANALYTICAL BIOCHEMISTRY 171(2), 266-270 (1988)
134. AVAEVA, S; SKLYANKINA, V; BAYKOV, A; NAZAROVA, T.
SITE-SITE INTERACTIONS AND REGULATION OF THE ACTIVITY OF INORGANIC PYROPHOSPHATASES
JOURNAL OF MOLECULAR CATALYSIS 47(2-3), 307-314 (1988)
135. BAYKOV, AA; KASHO, VN; EVTUSHENKO, OA; AVAEVA, SM.
USE OF INORGANIC PYROPHOSPHATASE AS A MARKER IN ENZYME IMMUNOASSAYS
BIOORGANICHESKAYA KHIMIYA 14(12), 1633-1640 (1988)
136. AVAEVA, SM.
PYROPHOSPHATASE - SOME NEW ASPECTS OF ACTIVITY REGULATION
BIOCHEMISTRY-MOSCOW 54(5), 594-598 (1989)
137. BAIKOV, AA; SHESTAKOV, AS; PAVLOV, AR; SMIRNOVA, IN; LARIONOV, VN; AVAEVA, SM.
INTERACTION OF PHOSPHATE AND MANGANESE IONS WITH YEAST INORGANIC PYROPHOSPHATASE
BIOCHEMISTRY-MOSCOW 54(5), 632-638 (1989)
138. BAYKOV, AA; PAVLOV, AR; KASHO, VN; AVAEVA, SM.
ALLOSTERIC REGULATION OF YEAST INORGANIC PYROPHOSPHATASE BY SUBSTRATE
ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS 273(2), 301-308 (1989)
139. AIRUMEYAN, LG; NAZAROVA, TI; KURILOVA, SA; AVAEVA, SM.
X-RAY-INVESTIGATION OF INORGANIC PYROPHOTASE PREPARED FROM ESCHERICHIA-COLI .1.
CRYSTAL-GROWTH OF HEAVY-ATOM DERIVATIVES
VESTNIK MOSKOVSKOGO UNIVERSITETA SERIYA 2 KHIMIYA 31(1), 98-100 (1990)
140. SHESTAKOV, AA; BAYKOV, AA; AVAEVA, SM.
TIGHTLY BOUND PYROPHOSPHATE IN ESCHERICHIA-COLI INORGANIC PYROPHOSPHATASE
FEBS LETTERS 262(2), 194-196 (1990)
141. SKLYANKINA, VA; AVAEVA, SM.
THE QUATERNARY STRUCTURE OF ESCHERICHIA-COLI INORGANIC PYROPHOSPHATASE IS ESSENTIAL FOR
PHOSPHORYLATION
EUROPEAN JOURNAL OF BIOCHEMISTRY 191(1), 195-201 (1990)
142. MOROZ, O.V.; STROKOPYTOV, B.V.; OGANESYAN, V.YU.; AIRUMYAN, L.G.; NEKRASOV, YU.V.;
NAZAROVA, T.I.; KURILOVA, S.A.; VOROB'EVA, N.N.; TERZYAN, S.S.; AVAEVA, S.M.; ARUTYUNYAN, E.G..
INVESTIGATION OF INORGANIC PYROPHOSPHATASE FROM E. COLI AT A RESOLUTION OF 5 ARING
SOVIET PHYSICS - CRYSTALLOGRAPHY 36(2), 248 (1991) [KRISTALLOGRAFIYA 36(2), 454-457 (1991)]
143. RAZNIKOV, AV; STERIOPOLI, NA; SKLYANKINA, VA; AVAEVA, SM.
AN ESSENTIAL TYROSINE RESIDUE OF SACCHAROMYCES-CEREVISIAE PYROPHOSPHATASE .2. POSSIBLE ROLE
OF TYR-89 IN THE ENZYMATIC MECHANISM
BIOCHEMISTRY-MOSCOW 57(8), 874-879 (1992)

144. RAZNIKOV, AV; EGOROV, TA; MIRGORODSKAYA, OA; SKLYANKINA, VA; AVAEVA, SM.
AN ESSENTIAL TYROSINE RESIDUE OF SACCHAROMYCES-CEREVISIAE PYROPHOSPHATASE .1. CHEMICAL
MODIFICATION AND LOCALIZATION WITHIN THE PRIMARY STRUCTURE
BIOCHEMISTRY-MOSCOW 57(8), 868-874 (1992)
145. RAZNIKOV, AV; SKLYANKINA, VA; AVAEVA, SM.
TYROSINE-89 IS IMPORTANT FOR ENZYMATIC-ACTIVITY OF SACCHAROMYCES-CEREVISIAE INORGANIC
PYROPHOSPHATASE
FEBS LETTERS 308(1), 62-64 (1992)
146. RAZNIKOV, AV; EGOROV, TA; MIRGORODSKAYA, OA; SKLYANKINA, VA; AVAEVA, SM.
ESSENTIAL GLUTAMIC-ACID RESIDUE IN ESCHERICHIA-COLI PYROPHOSPHATASE .1. CHEMICAL
MODIFICATION AND LOCALIZATION WITHIN THE PRIMARY STRUCTURE
BIOCHEMISTRY-MOSCOW 57(12), 1324-1332 (1992)
147. KURILOVA, SA; VOROBIEVA, NN; NAZAROVA, TI; AVAEVA, SM.
EXPRESSION OF SACCHAROMYCES-CEREVISIAE INORGANIC PYROPHOSPHATASE IN ESCHERICHIA-COLI
FEBS LETTERS 333(3), 280-282 (1993)
148. OGANESEYYAN, VY; KURILOVA, SA; VOROBYEVA, NN; NAZAROVA, TI; POPOV, AN; LEBEDEV, AA; AVAEVA,
SM; HARUTYUNYAN, EH.
X-RAY CRYSTALLOGRAPHIC STUDIES OF RECOMBINANT INORGANIC PYROPHOSPHATASE FROM
ESCHERICHIA-COLI
FEBS LETTERS 348(3), 301-304 (1994)
149. AVAEVA, SM; RODINA, EV; KURILOVA, SA; NAZAROVA, TI; VOROBYEVA, NN; HARUTYUNYAN, EH;
OGANESEYYAN, VY.
MG²⁺ ACTIVATION OF ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE
FEBS LETTERS 377(1), 44-46 (1995)
150. HARUTYUNYAN, EG; OGANESEYYAN, VY; OGANESEYYAN, NN; TERZYAN, SS; POPOV, AN; RUBINSKII, SV;
VAINSSTEIN, BK; NAZAROVA, TI; KURILOVA, SA; VOROBIEVA, NN; AVAEVA, SM.
STRUCTURES OF INORGANIC PYROPHOSPHATASE FROM E-COLI AND ITS COMPLEX WITH A MN²⁺ ION AT 2.2
ANGSTROM RESOLUTION
KRISTALLOGRAFIYA 41(1), 84-96 (1996)
151. AVAEVA, SM; RODINA, EV; KURILOVA, SA; NAZAROVA, TI; VOROBYEVA, NN.
EFFECT OF D42N SUBSTITUTION IN ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE ON CATALYTIC
ACTIVITY AND MG²⁺ BINDING
FEBS LETTERS 392(2), 91-94 (1996)
152. GRIGORIEVA, OV; SKLYANKINA, VA; AVAEVA, SM.
THE FEATURES OF PPASE E-COLI REACTION WITH PHOSPHORIC ACID MONOETHERS IN NEUTRAL AND
ALKALINE MEDIA
VESTNIK MOSKOVSKOGO UNIVERSITETA SERIYA 2 KHIMIYA 37(6), 616-617 (1996)
153. AVAEVA, S; IGNATOV, P; KURILOVA, S; NAZAROVA, T; RODINA, E; VOROBYEVA, N; OGANESEYYAN, V;
HARUTYUNYAN, E.
ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE: SITE-DIRECTED MUTAGENESIS OF THE METAL BINDING

SITES

FEBS LETTERS 399(1-2), 99-102 (1996)

154. BUROBIN, AV; LOMONOVA, MV; SKLYANKINA, VA; AVAEVA, SM.

IRREVERSIBLE SPECIFIC INHIBITION OF INORGANIC PYROPHOSPHATASE FROM ESCHERICHIA COLI BY AMINES
BIOORGANICHESKAYA KHIMIYA 23(2), 104-109 (1997)

155. HARUTYUNYAN, EH; OGANESSION, VY; OGANESSION, NN; AVAEVA, SM; NAZAROVA, TI; VOROBIEVA,
NN; KURILOVA, SA; HUBER, R; MATHER, T.

CRYSTAL STRUCTURE OF HOLE INORGANIC PYROPHOSPHATASE FROM ESCHERICHIA COLI AT 1.9 ANGSTROM
RESOLUTION. MECHANISM OF HYDROLYSIS

BIOCHEMISTRY 36(25), 7754-7760 (1997)

156. AVAEVA, S; KURILOVA, S; NAZAROVA, T; RODINA, E; VOROBIEVA, N; SKLYANKINA, V; GRIGORJEVA, O;
HARUTYUNYAN, E; OGANESSION, V; WILSON, K; DAUTER, Z; HUBER, R; MATHER, T.

CRYSTAL STRUCTURE OF ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE COMPLEXED WITH SO₄²⁻
FEBS LETTERS 410(2-3), 502-508 (1997)

157. AVAEVA, SM; RODINA, EV; VOROBIEVA, NN; KURILOVA, SA; NAZAROVA, TI; SKLYANKINA, VA;
OGANESSION, VY; HARUTYUNYAN, EH.

CHANGES IN E-COLI INORGANIC PYROPHOSPHATASE STRUCTURE INDUCED BY BINDING OF METAL
ACTIVATORS

BIOCHEMISTRY-MOSCOW 63(5), 592-599 (1998)

158. AVAEVA, SM; RODINA, EV; VOROBIEVA, NN; KURILOVA, SA; NAZAROVA, TI; SKLYANKINA, VA;
OGANESSION, VY; SAMYGINA, VR; HARUTYUNYAN, EH.

THREE-DIMENSIONAL STRUCTURES OF MUTANT FORMS OF E-COLI INORGANIC PYROPHOSPHATASE WITH
ASP -> ASN SINGLE SUBSTITUTION IN POSITIONS 42, 65, 70, AND 97

BIOCHEMISTRY-MOSCOW 63(6), 671-684 (1998)

159. SAMYGINA, VR; POPOV, AN; LAMZIN, VS; VOROBIEVA, NN; KURILOVA, SA; NAZAROVA, TI; AVAEVA, SM.
ATOMIC STRUCTURES OF INORGANIC PYROPHOSPHATASE COMPLEXED WITH CALCIUM AND CALCIUM-
PYROPHOSPHATE.

ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES 55, 367-368 (1999)

160. AVAEVA, SM; VELIKHO, TI; VOROBIEVA, NN; KURILOVA, SA; NAZAROVA, TI; SKLYANKINA, VA.
STABILIZATION OF THE ENZYME-SUBSTRATE COMPLEX OF THE MUTANT ASP-67ASN INORGANIC
PYROPHOSPHATASE FROM ESCHERICHIA COLI BY FLUORIDE IONS
BIOCHEMISTRY-MOSCOW 64(2), 169-174 (1999)

161. AVAEVA, S; GRIGORJEVA, O; MITKEVICH, V; SKLYANKINA, V; VARFOLOMEYEV, S.
INTERACTION OF ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE ACTIVE SITES
FEBS LETTERS 464(3), 169-173 (1999)

162. SAMYGINA, VR; POPOV, AN; LAMZIN, VS; VOROBIEVA, NN; KURILOVA, SA; NAZAROVA, TI; AVAEVA, SM.
STRUCTURAL STUDIES OF INHIBITING MECHANISM E.COLI INORGANIC PYROPHOSPHATASE BY CALCIUM
IONS.

ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES 56, S251-S251 (2000)

163. AVAEVA, SM.
ACTIVE SITE INTERACTIONS IN OLIGOMERIC STRUCTURES OF INORGANIC PYROPHOSPHATASES
BIOCHEMISTRY-MOSCOW 65(3), 361-372 (2000)
164. AVAEVA, SM; VOROBYEVA, NN; KURILOVA, SA; NAZAROVA, TI; POLYAKOV, KM; RODINA, EV; SAMYGINA, VR.
MECHANISM OF CA²⁺-INDUCED INHIBITION OF ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE
BIOCHEMISTRY-MOSCOW 65(3), 373-387 (2000)
165. GRIGORIEVA, OV; MIT'KEVICH, VA; SKLYANKINA, VA; AVAEVA, SM.
INHIBITION OF INORGANIC PYROPHOSPHATASE FROM ESCHERICHIA COLI WITH INORGANIC PHOSPHATE
RUSSIAN JOURNAL OF BIOORGANIC CHEMISTRY 27(1), 27-33 (2001)
166. RODINA, EV; VAINONEN, YP; VOROBYEVA, NN; KURILOVA, SA; NAZAROVA, TI; AVAEVA, SM.
THE ROLE OF ASP42 IN ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE FUNCTIONING
EUROPEAN JOURNAL OF BIOCHEMISTRY 268(13), 3851-3857 (2001)
167. VAINONEN, YP; RODINA, EV; VOROBYEVA, NN; KURILOVA, SA; NAZAROVA, TI; AVAEVA, SM.
SOME FEATURES OF HYDROLYSIS OF ORGANIC AND INORGANIC SUBSTRATES BY ESCHERICHIA COLI
INORGANIC PYROPHOSPHATASE IN THE PRESENCE OF VARIOUS ACTIVATOR CATIONS
RUSSIAN CHEMICAL BULLETIN 50(10), 1877-1884 (2001)
168. SAMYGINA, VR; POPOV, AN; RODINA, EV; VOROBYEVA, NN; LAMZIN, VS; POLYAKOV, KM; KURILOVA, SA;
NAZAROVA, TI; AVAEVA, SM.
THE STRUCTURES OF ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE COMPLEXED WITH CA²⁺ OR CAPPI
AT ATOMIC RESOLUTION AND THEIR MECHANISTIC IMPLICATIONS
JOURNAL OF MOLECULAR BIOLOGY 314(3), 633-645 (2001)
169. VAINONEN, YP; KURILOVA, SA; AVAEVA, SM.
HEXAMERIC, TRIMERIC, DIMERIC, AND MONOMERIC FORMS OF INORGANIC PYROPHOSPHATASE FROM
ESCHERICHIA COLI
RUSSIAN JOURNAL OF BIOORGANIC CHEMISTRY 28(5), 385-391 (2002)
170. SITNIK, TS; VAINONEN, JP; RODINA, EV; NAZAROVA, TI; KURILOVA, SA; VOROBYEVA, NN; AVAEVA, SM.
EFFECTORY SITE IN ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE IS REVEALED UPON MUTATION AT
THE INTERTRIMERIC INTERFACE
IUBMB LIFE 55(1), 37-41 (2003)
171. VAINONEN, YP; VOROBYEVA, NN; KURILOVA, SA; NAZAROVA, TI; RODINA, EV; AVAEVA, SM.
ACTIVE DIMERIC FORM OF INORGANIC PYROPHOSPHATASE FROM ESCHERICHIA COLI
BIOCHEMISTRY-MOSCOW 68(11), 1195-1199 (2003)
172. VAINONEN, JP; VOROBYEVA, NN; RODINA, EV; NAZAROVA, TI; KURILOVA, SA; SKOBLOV, JS; AVAEVA,
SM.
METAL-FREE PPI ACTIVATES HYDROLYSIS OF MG₂P₂O₇ BY AN ESCHERICHIA COLI INORGANIC
PYROPHOSPHATASE
BIOCHEMISTRY-MOSCOW 70(1), 69-78 (2005)

173. SITNIK, TS; AVAEVA, SM.
A CATIONIC CLUSTER OF AMINO ACID RESIDUES OF INORGANIC PYROPHOSPHATASE FROM ESCHERICHIA COLI AS A POSSIBLE SITE OF EFFECTOR BINDING
RUSSIAN JOURNAL OF BIOORGANIC CHEMISTRY 31(3), 221-228 (2005)
174. MOISEEV, VM; RODINA, EV; AVAEVA, SM.
EFFECT OF MUTATION OF THE CONSERVATIVE GLYCINE RESIDUES GLY100 AND GLY147 ON STABILITY OF ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE
BIOCHEMISTRY-MOSCOW 70(8), 848-857 (2005)
175. MOISEEV, VM; RODINA, EV; KURILOVA, SA; VOROBYEVA, NN; NAZAROVA, TI; AVAEVA, SM.
SUBSTITUTIONS OF GLYCINE RESIDUES GLY100 AND GLY147 IN CONSERVATIVE LOOPS DECREASE RATES OF CONFORMATIONAL REARRANGEMENTS OF ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE
BIOCHEMISTRY-MOSCOW 70(8), 858-866 (2005)
176. SITNIK, TS; AVAEVA, SM.
BINDING OF SUBSTRATE AT THE EFFECTOR SITE OF PYROPHOSPHATASE INCREASES THE RATE OF ITS HYDROLYSIS AT THE ACTIVE SITE
BIOCHEMISTRY-MOSCOW 72(1), 68-76 (2007)
177. SAMYGINA, VR; MOISEEV, VM; RODINA, EV; VOROBYEVA, NN; POROV, AN; KURILOVA, SA; NAZAROVA, TI; AVAEVA, SM; BARTUNIK, HD.
REVERSIBLE INHIBITION OF ESCHERICHIA COLI INORGANIC PYROPHOSPHATASE BY FLUORIDE: TRAPPED CATALYTIC INTERMEDIATES IN CRYO-CRYSTALLOGRAPHIC STUDIES
JOURNAL OF MOLECULAR BIOLOGY 366(4), 1305-1317 (2007)