

VASSILIS BOURIOTIS

CURRICULUM VITAE

NAME: Vassilis Bouriotis
ADDRESS: Department of Biology, University of Crete, P.O. Box
2208, 714 09, Heraklion-Crete, Greece

PLACE &

DATE OF BIRTH: Athens, 16-02-1952

EDUCATION: B.Sc in Biology, University of Athens (1975)
M.Sc in “Molecular Enzymology”, University of
Warwick, U.K (1976)
Ph.D in “Biochemistry”, University of Liverpool, U.K.
(1980)

PROFESSIONAL

EXPERIENCE: Researcher, Institute of Molecular Biology and
Biotechnology (IMBB), Research Center of Crete
(R.C.C.) (1983-1989).

Associate Professor in Biotechnology, Department of
Biology University of Crete (1989-1997)

Professor in Biotechnology, Department of Biology
University of Crete (1997-today)

Researcher, IMBB, Foundation of Research and
Technology (FORTH), Crete (1989-today)

LIST OF PUBLICATIONS

1. "Applications of Immobilised Phenylboronic acids as supports for Group Specific Ligands in the Affinity Chromatography of Enzymes" **V. BOURIOTIS**, I.J. GALPIN and P.D.G. DEAN (1981), **J. Chromatography** 210, 267-278
2. "Use of Triazine Dyes in the Affinity Chromatographic Purification of Alkaline Phosphatase from Calf Intestine" **V. BOURIOTIS** and P.D.G. DEAN (1981), **J.Chromatography** 206, 521-530
3. "Affinity Chromatography of membrane proteins on Dihydroxyboryl Matrex Gel" G.T. WILLIAMS, A.P. JOHNSTONE, **V. BOURIOTIS** and P.D.G. DEAN (1981), **Biochemical Society Transactions** 9, 137-139
4. "Affinity Chromatography of yeast α -glucosidase using ligand-mediated Chromatography on Immobilized Phenylboronic acids" T.A. MYOHANEN, **V. BOURIOTIS** and P.D.G. DEAN (1981), **Biochemical Journal** 197, 683-688
5. "Measurement of Glycosylated Haemoglobins using Affinity Chromatography" **V. BOURIOTIS**, J. STOTT, A. GALLOWAY, A.J. BELLINGHAM and P.D.G. DEAN (1981), **Diabetologia** 21, 579-580
6. "High-Performance Liquid Chromatography for the Purification of Restriction Endonucleases, Application to Ban II, Sac I and Sph I" **V. BOURIOTIS**, A. ZAPHIROPOULOS, and Y.D. CLONIS (1987), **Analytical Biochemistry** 160, 127-134
7. "Dye-Ligand Chromatography for the Resolution and Purification of Restriction Endonucleases" G. VLATAKIS, G. SKARPELIS, I. STRATIDAKI, Y.D. CLONIS and **V. BOURIOTIS** (1987), **Applied Biochemistry and Biotechnology**: 15, 201-212.
8. "Isolation and identification of restriction endonuclease BseA I" D. THANOS, G. SKARPELIS, J. PAPAMATHEAKIS AND **V. BOURIOTIS** (1989), **Nucleic Acids Research**: 17, 8881

9. "Isolation and identification of restriction endonuclease BshF I" G. VLATAKIS, D. CLARK and **V. BOURIOTIS (1989), Nucleic Acids Research: 17, 8882**
10. "Isolation and identification of restriction endonuclease BshG I" G. SCARPELIS, A. MOISSIDOU, M. RINA and **V. BOURIOTIS (1989) Nucleic Acids Research: 17, 8883**
11. "Isolation and identification of restriction endonuclease BshK I" A. MOISSIDOU, M. RINA and **V. BOURIOTIS (1989), Nucleic Acids Research: 17, 8884**
12. "Isolation of Restriction Endonucleases to Homogeneity using Sequence Specific DNA Affinity Chromatography" G. VLATAKIS and **V. BOURIOTIS (1990), Analytical Biochemistry: 195,352-357**
13. "Isolation and identification of restriction endonuclease BsiS I" M. RINA and **V. BOURIOTIS (1990), Nucleic Acids Research: 18, 1654**
14. "Isolation and identification of restriction endonuclease BsiK I" M. RINA and **V. BOURIOTIS (1990), Nucleic Acids Research: 18, 1655**
15. "Isolation and identification of restriction endonuclease BssA I" M. RINA, I. STRATIDAKIS AND **V. BOURIOTIS (1990), Nucleic Acids Research: 18, 6161**
16. "Isolation and identification of restriction endonuclease BseB I" M. RINA., I. TSIGOS., A. KARAGOUNI., M. PAGOMENOU and **V. BOURIOTIS (1991), Nucleic Acids Research: 19,4776**
17. "Affinity partitioning of restriction endonucleases: Application to the purification of EcoR I and EcoR V" G. VLATAKIS and **V. BOURIOTIS (1991), J. Chromatography: 538, 311-321**
18. "Isolation and identification of restriction endonuclease SseA I" M. RINA., A. KARAGOUNI., M. PAGOMENOU., I. TSIGOS and **V. BOURIOTIS (1991), Nucleic Acids Research: 19,6341**

19. "Isolation and identification of restriction endonuclease SgrB I" M. RINA., A. KARAGOUNI., M. PAGOMENOU and V. **BOURIOTIS (1991), Nucleic Acids Research:** 19,634
20. "Isolation and identification of restriction endonuclease BseC I" M. RINA., D. DIALEKTAKIS., D. CLARK., M. PAGOMENOU and V. **BOURIOTIS (1992), Nucleic Acids Research:** 20, 1807
21. "Isolation and identification of restriction endonuclease MspC I" M. RINA., M. TZANODASKALAKI., A. KARAGOUNI, M. PAGOMENOU and V. **BOURIOTIS (1992), Nucleic Acids Research:** 20,1806
22. "Isolation and identification of restriction endonuclease SseB I" M. RINA., M. TZANODASKALAKI., A. KARAGOUNI, M. PAGOMENOU and V. **BOURIOTIS (1992), Nucleic Acids Research:** 20, 1808
23. "AspE I, a novel Eam 11051 isochizomer from *Aureobacterium* species recognizing 5'-GACnnn/mnGTC-3'" B. FREY, K. KALUZA, J. AUER, I. STRATIDAKIS, M. RINA, V. **BOURIOTIS** and G. SCHMITZ (1992), **Nucleic Acids Research** 20,3782
24. "Sequence-specific DNA affinity chromatography: application of a group-specific adsorbent for the isolation of restriction endonucleases" C. POZIDIS, G. VLATAKIS and V. **BOURIOTIS (1993), J. Chromatography:** 630,151-157
25. "Bioconversion of chitin to chitosan: Purification and characterization of chitin deacetylase from *Mucor rouxii*" D. KAFETZOPOULOS, A. MARTINOI and V. **BOURIOTIS (1993), The Proceedings of the National Academy of Sciences, U.S.A:** 90,2564-2568
26. "The primary structure of a fungal chitin deacetylase reveals function for two bacterial gene products" D. KAFETZOPOULOS, G. THIREOS, J. VOURNAKIS and V. **BOURIOTIS (1993), The Proceedings of the National Academy of Sciences, U.S.A:** 90, 8005-8008
27. "Isolation of chitin deacetylase from *Mucor rouxii* by immunoaffinity chromatography" A. MARTINOI, D. KAFETZOPOULOS and V. **BOURIOTIS (1993), J. Chromatography:** 644, 35-41

28. "Isolation and partial characterization of two alcohol dehydrogenase isozymes from the medfly *Ceratitis capitata*" G. GASPERI, D. KAFETZOPOULOS, A. CHRISTODOULIDOU, **V. BOURIOTIS** and C. SAVAKIS (1993), **Insect Biochemistry and Molecular Biology**: 24, 87-94
29. "Cloning, purification and characterization of the BseC I DNA methyltransferase from *B. stearothermophilus*" M. RINA and **V. BOURIOTIS** (1993), **Gene**: 133, 91-94
30. "Sequence of the cloned bseCIM gene: M. BseCI reveals high homology to M.BanIII" M. RINA, M. MARKAKI and **V. BOURIOTIS** (1994), **Gene**: 150,71-73
31. "Chitin deacetylation by enzymatic means: Monitoring of deacetylation processes" A. MARTINO, D. KAFETZOPOULOS and **V. BOURIOTIS** (1995) **Carbohydrate research**: 273, 235-242
32. "Preparation of high purity alkaline phosphatase from calf intestine using dye-ligand chromatography" C. POZIDIS and **V. BOURIOTIS** (1995), **Bioseparation**: 5; 89-93.
33. "Purification and characterization of chitin deacetylase from *Colletotrichum lindemuthianum*" I. TSIGOS and **V. BOURIOTIS** (1995), **J. Biol. Chem**: 270, 26286-26291
34. "Two sporulation-specific chitin deacetylase encoding genes are required for the ascospore wall rigidity of *Saccharomyces cerevisiae*" A. CHRISTODOULIDOU, **V. BOURIOTIS** and G. THIREOS (1996), **J. Biol. Chem**: 271, 31420-31425
35. "Bsp153AI and BspM39I - New isoschizomers of restriction endonuclease PvuII" A.A. KALUGIN, M. RINA, M.A. EL DAROV, M. MARKAKI, S.V. KOROLEV, O.T. SAMKO, E.B. KHOROSHUTINA, N.N. SOKOLOV, **V. BOURIOTIS** (1996), **Bioorganicheskaya Khimiya**: **22** (2): 108-110
36. "Purification, crystallization and preliminary X-ray analysis of the M.BseCI DNA methyltransferase from *Bacillus stearothermophilus*" A., ATHANASIADIS, Y. PAPANIKOLAOU, M. RINA M.

- PAPADOVASILAKI, K. PETRATOS, V. **BOURIOTIS** and M. KOKKINIDIS (1997), **Acta Crystallographica Section D**:53, 477-479
37. "Cloning and characterization of the gene encoding PspPI methyltransferase from the Antarctic Psychrotroph. *Psychrobacter* sp. strain TA137. Predicted interactions with DNA and organization of the variable region" M. RINA, F. CAUFRIER, M. MARKAKI, K. MAVROMATIS, M. KOKKINIDIS and V. **BOURIOTIS** (1997), **Gene**: 197,353-360
38. "Mode of action of chitin deacetylase from *Mucor rouxii* on partially N-acetylated chitosans" A. MARTINO, V. **BOURIOTIS**, B.T. STOKKE, and K.M. VARUM (1998), **Carbohydrate Research**: 311, 71-78
39. "Purification and characterization of an Alcohol Dehydrogenase from the Antarctic psychrophile *Moraxella* sp. TAE 123" I. TSIGOS, K. VELONIA, I. SMONO and V **BOURIOTIS** (1998), **Eur. J. Biochem.**: 254,356-362
40. "Isolation and specificity of novel restriction endonucleases Bsp40091 and AsiI, isoschizomers of BamHI. S.V. KOROLEV, N.N. SOKOLOV, M. RINA, M.A. EFDAROV, N.M. OMELYANIUK, M. MARKAKI, K.G. SKRIABIN and V. **BOURIOTIS**, (1998), **Mol. Gen. Mikrobiol. Virusol.**; (2):32-5
41. "Novel site-specific endonucleases from *Brevibacterium* species" N.N. SOKOLOV, S.V. KOROLEV, M. RINA, M.A. ELDAROV, I. GERVAZIEV, K.G. SKRIABIN, and V. **BOURIOTIS**, (1998), **Mol. Gen. Mikrobiol. Virusol.**; (2):35-8
42. "Isolation and characterization of CspBI, a novel NotI isoschizomer from *Corynebacterium* species B recognizing 5'-GC/GGCCGC-3'" N.N. SOKOLOV, M.A. ELDAROV, M. RINA, S.V. KOROLEV, M. MARKAKI, A.A. KALUGIN, N.M. OMELYANIUK, K.G. SKRIABIN, and V. **BOURIOTIS**, (1998), **Biochem Mol Biol Int.**, 44(3):433-41
43. "Mode of action of chitin deacetylase from *Mucor rouxii* on N acetylchitooligo-saccharides" I.TSIGOS, N. ZYDOWICZ, A. MARTINO, A. DOMARD V. **BOURIOTIS** (1999), **Eur. J. Biochem.**: 261, 698-705

44. "Stereospecificity of Hydrogen Transfer by the NAD⁺-linked Alcohol Dehydrogenase from the Antarctic Psychrophile *Moraxella* sp. TAE123" K. VELONIA, I. TSIGOS, V. **BOURIOTIS** and I. SMONOU (1999), **Bioorganic & Medicinal Chemistry Letters**: 9, 65-68
45. "Yeast ascospore wall assembly requires two chitin deacetylase isozymes" A. CHRISTODOULIDOU, P. BRIZA, A. ELLINGER and V. **BOURIOTIS**, (1999), **FEBS Letters**: 460, 275-279
46. "Alkaline Phosphatase from the Antarctic strain TAB5: Properties and psychrophilic Adaptations" M. RINA, CH. POZIDIS, K. MAVROMATIS, M. TZANODASKALAKI, M. KOKKINIDIS AND V. **BOURIOTIS**, (2000), **Eur. J. Biochem.**: 267, 1230-1238
47. "Chitin deacetylases: new, versatile tools in biotechnology" I. TSIGOS, A. MARTINO, D. KAFETZOPOULOS and V. **BOURIOTIS**, (2000), **Trends in Biotechnology**: 18, 7, 305-312
48. "Enzyme activity determination on macromolecular substrates by isothermal titration calorimetry: application to mesophilic and psychrophilic chitinases" T. LONHIENNE, E. BAISE, G. FELLER, V. **BOURIOTIS**, C. GERDAY, (2001), **Biochimica et Biophysica Acta**: 1545, 349-356
49. "Cloning, sequence and characterization of two chitinase genes from the Antarctic strain *Arthrobacter* sp. TAD20. Isolation and partial characterization of the enzymes" T. LONHIENNE, K. MAVROMATIS, C. VORGIAS, L. BUCHON, C. GERDAY and V. **BOURIOTIS**, (2001), **J. Bacteriology**: 183 (5), 1773-1779
50. "Modular structure, local flexibility and cold-activity of a novel chitinase from a psychrophilic Antarctic bacterium" T. LONHIENNE, J. ZOIDAKIS, C. E. VORGIAS, G. FELLER, C. GERDAY and V. **BOURIOTIS** (2001), **J. Molecular Biology**: 310, 291-297
51. "Engineering the properties of a cold active enzyme through rational redesign of the active site" I. TSIGOS, K. MAVROMATIS, M. TZANODASKALAKI,

- C.POZIDIS, M. KOKKINIDIS and V. BOURIOTIS, (2001), **Eur. J. Biochem.:** 268, 5074-5080
52. "Expression, purification and characterization of a cobalt-activated chitin deacetylase (Cda2p) from *S. cerevisiae*" A. MARTINO, D. KOUTSIOULIS and V. BOURIOTIS, (2002), **Protein Expression and Purification.** : 24, 111-116
53. "Enzymatic catalysis at Low Temperature-Exploring the potential of cold adapted enzymes in biotechnology" I. TSIGOS and V. BOURIOTIS (2002) **Business briefing: Life sciences technology**
54. "Exploring the role of glycine cluster in cold adaptation of an alkaline phosphatase" K MAVROMATIS, I. TSIGOS, M. TSANODASKALAKI, M. KOKKINIDIS, and V. BOURIOTIS, (2002), **Eur. J. Biochem** : 269(9):2330-2335
55. "Cloning And Expression Of A Chitin Deacetylase Gene (Cda2) From *Saccharomyces Cerevisiae* In *Escherichia Coli* - Purification And Characterization Of The Cobalt-Dependent Recombinant Enzyme, Enzyme And Microbial Technology" A. MARTINO, D. KOUTSIOULIS, V. BOURIOTIS, **Enzyme And Microbial Technology**, 32 (6): 757-763 (2003)
56. "Expression, characterization and functional analysis of a recombinant chitin deacetylase secreted in the periplasmic space of *E. coli*" A. MARTINO, D. KOUTSIOULIS, and V. BOURIOTIS, (2003), **Enzyme and Microbial Technology:** 32, 757-763 Cold adaptation of a psychrophilic chitinase: a mutagenesis study" K. MAVROMATIS, G. FELLER, M. KOKKINIDIS and V. BOURIOTIS, (2003), **Protein Engineering.**16 (7), 497-503
57. "Mode of action and properties of two cold adapted chitinases" K. MAVROMATIS, M. LORITO, S.L. WOO and V. BOURIOTIS, (2003), **Extremophiles:** 7, 221-228
58. "Cold adaptation of a psychrophilic chitinase: a mutagenesis study" K. MAVROMATIS, G. FELLER, M. KOKKINIDIS and V. BOURIOTIS, (2003), **Protein Engineering.**16 (7), 497-503

59. "Carbohydrate Esterase Family 4 enzymes: substrate specificity" F. CAUFRIER, A. MARTINO, C. DUPONT, and V. BOURIOTIS, (2003), **Carbohydrate Research**: 338, 687-692
60. "Impact of Protein Flexibility on Hydride- Transfer Parameters in Thermophilic and Psychrophilic Alcohol Dehydrogenases" Z.X. LIANG, I. TSIGOS, V. BOURIOTIS, and J. P. KLINMAN (2004), **JACS**: 126, 9500-9501
61. "Evidence for increased local flexibility in Psychrophilic Alcohol Dehydrogenase relative to its Thermophilic Homologue" Z. X. LIANG, I. TSIGOS, T. LEE, V. BOURIOTIS, K.A. RESING, N.G, AHN and J. P. KLINMAN (2004), **Biochemistry**, 43, 14676-14683
62. "Crystallization and preliminary X-ray diffraction studies of an alcohol dehydrogenase from the Antarctic psychrophile *Moraxella* sp TAE123" Y. PAPANIKOLAOU, I. TSIGOS, M. PAPADOVASILAKI, V. BOURIOTIS and K. PETRATOS (2005), **Acta Crystallographica Section F**: 246-248
63. "Peptidoglycan N- Acetylglucosamine Deacetylases from *Bacillus cereus*, Highly Conserved Proteins in *Bacillus anthracis*" E. PSYLINAKIS, I.G. BONECA, K. MAVROMATIS, A. DELI, E. HAYHURST, S. J. FOSTER, K. M. VARUM and V. BOURIOTIS (2005): **J.Biol.Chemistry(280),(35)** , 30856-30863
64. "Purification, crystallization and preliminary characterization of a putative, LmbE-like deacetylase from *Bacillus cereus*" V.E. FADOULOGLOU, D. KOTSIFAKI, A. GAZI, G. FELLAS, C. MERAMVELIOTAKI, A. DELI, E. PSYLINAKIS, V. BOURIOTIS and M. KOKKINIDIS (2006), **Acta Crystallographica Section F**:62, 261-264
65. "Crystal Structure of Alkaline Phosphatase from the Antarctic Bacterium TAB5" E. WANG, D. KOUTSIOLIS, H.-K. S. LEIROS, O. A. ANDERSEN, V. BOURIOTIS, E. HOUGH and P. HEIKINHEIMO (2007), **J. Mol. Biol.** 366, 1318–1331

66. “A critical role for peptidoglycan N-deacetylation in *Listeria* evasion from the host innate immune system” I. G. BONECA, O. DUSSURGET, D. CABANESC, M-A. NAHORIC, S. SOUSA, M. LECUIT, E. PSYLINAKIS, **V. BOURIOTIS**, J-P. HUGOTI, M. GIOVANNINIK, A. COYLEM, J. BERTINM, A. NAMANEP, J-C. ROUSSELLE, N. CAYET, M-C. PREVOST, V. BALLOY, M. CHIGNARD, D. J. PHILPOTT, P. COSSART, and S. E. GIRARDIN (2007), **PNAS** vol.104, no.3, 997–1002
67. “Purification, crystallization and preliminary X-ray analysis of the BseCI DNA methyltransferase from *Bacillus stearothermophilus* in complex with its cognate DNA” E. G. KAPETANIOU, D. KOTASIFAKI, M. PROVIDAKI, M. RINA, **V. BOURIOTIS**, and M. KOKKINIDIS (2007), **Acta Crystallographica Section F**: 63, 12-14
68. “Crystal structure of the BcZBP, a zinc-binding protein from *Bacillus cereus*” V.E. Fadouloglou, A. DELI, N.M, GLYKOS, E. PSYLINAKIS, **V. BOURIOTIS** and M. KOKKINIDIS (2007), **Functional insights from structural data (FEBS Journal)**: 274, 3044-3054
69. “Directed evolution on the cold adapted properties of TAB5 alkaline phosphatase” D. KOUTSIOULIS, E. WANG, M. TZANODASKALAKI, D. NIKIFORAKI, A. DELI, G. FELLER, P. HEIKINHEIMO, and **V. BOURIOTIS** (2008), **Protein Engineering, Design&Selection** : vol.21 no.5 pp. 319-327
70. “Purification, crystallization and preliminary X-ray analysis of the peptidoglycan N-acetylglucosamine deacetylase BC1960 from *Bacillus cereus* in the presence of its substrate (GlcNAc)₆” A. TSALAFOUTA, E. PSYLINAKIS, E.G. KAPETANIOU, D. KOTSIFAKI, A. DELI, A. ROIDIS, **V. BOURIOTIS** and M. KOKKINIDIS, (2008), **Acta Crystallographica Section F**: F64, 203–205
71. “Molecular Dynamics Simulations of BcZBP, A Deacetylase from *Bacillus cereus*: Active Site Loops Determine Substrate Accessibility and Specificity” V.E. FADOULOGLOU, A. STAVRAKLOUDIS, **V. BOURIOTIS**, M.

KOKKINIDIS and N. GLYKOS, (2009), **J. Chem. Theory Comput.**, 2009, 5 (12), pp 3299-3311

72. “Coordination sphere of the third metal site is essential to the activity and metal selectivity of alkaline phosphatases” D. KOUTSIOULIS, A. LYSKOWSKI, S. MAKI, E. GUTHRIE, G. FELLER, **V. BOURIOTIS** and P. HEIKINHEIMO, (2010), **Protein Science**: 19(1):75-84

73. “LmbE proteins from *Bacillus cereus* are de-*N*-acetylases with broad substrate specificity and are highly similar to proteins in *Bacillus anthracis*” A. DELI, D. KOUTSIOULIS, V.FADOULOGLOU, P. SPILIOTOPOULOU, BALOMENOU S, ARNAOUTELI S, TZANODASKALAKI M, K. MAVROMATIS, M. KOKKINIDIS and **V. BOURIOTIS** (2010), **FEBS Journal**, 277 (13): 2740-2753.

PATENTS

- 1** "Method and Product for Separation of Glycoproteins"
P.D.G. DEAN, P.J. BROWN and V. BOURIOTIS **(1979)**
British Patent G.B. 2024829
- 2** "Method and Product for Separation of Glycoproteins"
P.D.G. DEAN, P.J. BROWN and V. BOURIOTIS **(1979)**
U.S. Patent Serial No 052 474
- 3** "Purified Chitin Deacetylase"
V. BOURIOTIS, D. KAFETZOPOULOS, J. VOURNAKIS and A. MARTINO
(1991)
International Patent Pending; International Application No: PCT/US92/08529
- 4** "Process for Isolating and Preparing Purified Chitin Deacetylase"
V. BOURIOTIS, D. KAFETZOPOULOS and J. VOURNAKIS**(1991)**
US Patent No: 5,219,749
- 5** "Nucleic acid molecules encoding a bacterial protein having deacetylase activity,
such protein, methods for producing same and uses thereof"
A. DELI, E. PSYLINAKIS, B. MOERSCHBACHER, and V. BOURIOTIS
Application for a European patent
Application date: August 4, 2006
Official file No: 0601622.7