

## CURRICULUM VITAE

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BORN: April 29, 1929 in Hungary

NATIONALITY: U.S. Citizen

FAMILY: Husband, Dr. Michael Bárány, Biochemist  
Children, Dr. George Barany (1955) Biochemist  
Dr. Francis Barany (1957) Microbiologist

EDUCATION: Physics, Physical Chemistry, Mathematics, 1947-1952,  
Eotvos University, Budapest, Hungary, M.Sc. 1952  
Physical Chemistry, 1958-1959,  
Goethe University, Frankfurt am Main, Germany,  
Ph.D. 1959

TEACHING EXPERIENCE: Physiology and biochemistry of muscle for graduate  
students.  
Nerve-muscle for medical and dental students.

RESEARCH EXPERIENCE: Physical chemical characterization of proteins,  
physiology of muscle contraction,  
protein phosphorylation.

PUBLICATIONS: 82 papers, 68 abstracts, 12 reviews-book chapters

Update: April 2003

**AWARDS:**

Best Organized Lecturer, College of Medicine,  
University of Illinois, 1986  
Golden Apple for Excellence in Teaching, College of  
Medicine, University of Illinois, 1989  
Urban Health Enrichment Award, College of Medicine,  
University of Illinois, 1994  
John Nuveen Center for International Affairs, Certificate  
of Recognition, University of Illinois at Chicago, 1995  
Woman of the Year, University of Illinois at Chicago,  
1996  
Teaching Recognition Program Award, University of  
Illinois at Chicago, 1997  
College of Medicine nomination for UIC Award for  
Excellence in Teaching, 1997-98  
Philip L. Hawley Distinguished Faculty Award,  
Department of Physiology and Biophysics, University  
of Illinois, 1998

**POSITIONS:** 1998 to present:

Professor Emerita, University of Illinois  
Chicago, IL 60612  
1980-98: Professor, University of Illinois  
Chicago, IL 60612  
1974-80: Assoc. Professor, University of Illinois  
Chicago, IL 60612  
1971-74: Assoc. Member, Institute for Muscle  
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1966-71: Assistant Member, Institute for Muscle  
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1960-66: Research Associate, Institute for Muscle  
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1958-60: Research Associate, Max Planck Institute  
for Physiology, Heidelberg, Germany  
1950-57: Research Assistant, Electron Microscope  
Laboratory of The Hungarian Academy of  
Sciences, Budapest, Hungary

**MEMBERSHIPS:**

Biophysical Society, The American Physiological Society

## Bibliography of K. Bárány

### Papers:

1. Bárány, K. and Hegedus, L. (1953). Theory and Practice of Ultracentrifugal Techniques. Meres es Automatika, 1, 98-104 (In Hungarian).
2. Bárány, K. and Hegedus, L. (1953). Molecular Weight Determinations by Sedimentation and Diffusion. Magyar Kemikusok Lapja, 8, 268-275 (In Hungarian).
3. Bárány, K. (1955). Physical-chemical Characterization of Proteins. In "Methods of Experimental Medicine" (Editor: A. Kovach). Academ. Press, Budapest (In Hungarian).
4. Bárány, K. and Stark, G. (1955). A New Cell Type for Lamm Diffusion Apparatus. Meres es Automatika, 3, 199-202 (In Hungarian).
5. Kasszan, B., Hegedus, L., Guba, F., Bárány, K. and Tomorkeny, E. (1955). Investigations on the Polydispersity and Molecule Structure of Dextran Used as Plasma Volume Substitute. Magyar Kemiai Folyoirat, 61, 65-73 (In Hungarian).
6. Bárány, K. (1956). Molecular Weight Determinations by Means of Diffusion and Viscosity. Meres es Automatika, 4, 148-152 (In Hungarian).
7. Bárány, K., Guba, F. and Tamasovits, G. (1956). Studies on the Molecular Weight of Sulfonic Acids. Bor es Cipotechnika, 6, 97-105 (In Hungarian).
8. Bárány, K., Guba, F. and Tamasovits, G. (1957). Molekulargewichts- bestimmungen von Ligninsulfonsaure. Faserforschung und Textiltechnik, 8, 27-30.
9. Bárány, M., Bárány, K. and Guba, F. (1957). Preparation of Actin Without Extraction of Myosin. Nature, 179, 818-819.
10. Bárány, M., Bárány, K., Guba, F., Koteles, G. and Nagy, E. (1957). Uber den Zustand des Aktins im Muskel. Acta Physiol. Acad. Sci. Hung., 11, 145-164.
11. Bárány, M. and Bárány, K. (1959). Studies on the "Active Centers" of L- Myosin. Biochim. Biophys. Acta, 35, 293-309.
12. Bárány, M. and Bárány, K. (1959). Giftwirkung auf die Kartoffelaprase. Biochim. Biophys. Acta, 35, 544-545.
13. Bárány, K. (1959). Zur Methodik der Molekulargewichts-Bestimmung mit Hilfe von Sedimentation und Diffusion. Ph.D. Dissertation, Frankfurt, Germany.

14. Bárány, M. and Bárány, K. (1960). Polyelektrolyte als Interaktions- Inhibitoren und die Bedeutung von Ca und Mg für die Aktin-Myosin Interaktion. Biochim. Biophys. Acta, 41, 204-216.
15. Bárány, M., Bárány, K. and Trautwein, W. (1960). Die Hemmung der Aktin- L-Myosin Interaktion in Lebenden und Extrahierten Muskeln durch Urea. Biochim. Biophys. Acta 45, 317-335.
16. Bárány, M., Bárány, K. and Oppenheimer, H. (1963). Effect of Ultrasonics on the Adenosine Triphosphatase Activity and Actin-binding Ability of L-Myosin and Heavy Meromyosin. Nature, 199, 694-695.
17. Bárány, K., Bárány, M., Oppenheimer, H. and Antony, T.T. (1963). Effects of Ultrasonics on the Size and Shape of L-Myosin and the Meromyosins. Biochim. Biophys. Acta, 74, 551-554.
18. Bárány, M., Gaetjens, E., Bárány, K. and Karp, E. (1964). Comparative Studies of Rabbit Cardiac and Skeletal Myosins. Arch. Biochem. Biophys., 106, 280-293.
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20. Bárány, M., Bárány, K., Reckard, T. and Volpe, A. (1965). Myosin of Fast and Slow Muscles of the Rabbit. Arch. Biochem. Biophys., 109, 185- 191.
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23. Bárány, M., Bárány, K., Gaetjens, E. and Bailin, G. (1966). Chicken Gizzard Myosin. Arch. Biochem. Biophys., 113, 205-221.
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25. Oppenheimer, H., Bárány, K., Hamoir, G. and Fenton, J. (1966). Polydispersity of Succinylated Myosin. Arch. Biochem. Biophys., 115, 233.
26. Bárány, M., Gaetjens, E. and Bárány, K. (1966). Myosin in Hereditary Muscular Dystrophy of Chickens. Ann. N.Y. Acad. Sci., 138, 360-366.
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30. Bárány, M., Bárány, K. and Bailin, G. (1968). Reactivity of Actomyosin and Myosin with 1-Fluoro-2,4-dinitrobenzene in Vivo and in Vitro. Biochim. Biophys. Acta, 168, 298-310.
31. Bárány, M., Bailin, G. and Bárány, K. (1969). Reaction of Myosin with 1-Fluoro-2,4-dinitrobenzene at Low Ionic Strength. J. Biol. Chem., 244, 648-657.
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35. Bárány, M. and Bárány, K. (1970). Change in the Reactivity of Myosin during Muscle Contraction. J. Biol. Chem., 245, 2717-2721.
36. Bárány, M., Bárány, K. and Gaetjens, E. (1971). Change in the Reactivity of the Head Part of Myosin during Contraction of Frog Muscle. J. Biol. Chem., 246, 3241-3249.
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38. Bárány, M. and Bárány, K. (1973). The Interaction of Myosin, Actin and ATP in the Intact Muscle. J. Mechanochem. & Cell Motility, 2, 51-59.
39. Bárány, M., Bárány, K. and Gaetjens, E. (1973). Analysis of Muscle Contraction by Tritium-Incorporation. J. Biol. Chem., 248, 5389-5394.
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43. Bárány, M., Bárány, K., Gaetjens, E. and Steinschneider, A. (1977). Isolation of Phosphorylated Acid Chloroform-Methanol Soluble Proteins from Live Frog Muscle. Biochim. Biophys. Acta, 491, 387-397.
44. Bárány, K. and Bárány, M. (1977). Phosphorylation of the 18,000-dalton Light Chain of Myosin during a Single Tetanus of Frog Muscle. J. Biol. Chem., 252, 4752-4754.
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60. Bárány, K., Ledvora, R.F., Mougios, V. and Bárány, M. (1985). Stretch Induced Myosin Light Chain Phosphorylation and Stretch-Release-Induced Tension development in Arterial Smooth Muscle. J. Biol. Chem., 260, 7126-7130.
61. Bárány, K., Csabina, S. and Bárány, M. (1985). The Phosphorylation of the 20,000-dalton Myosin Light Chain in Rat Uterus. In "Advances in Protein Phosphatases" (Editors: W. Merlevede and J. Di Salvo). Leuven University Press, Leuven, Belgium. II. p. 37-58.
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64. Bárány, K., Csabina, S., de Lanerolle, P., and Bárány, M. (1987). Evidence for Isoforms of the Phosphorylatable Myosin Light Chain in Rat Uterus. Biochim. Biophys. Acta, 911, 369-371.

65. Csabina, S., Bárány, M. and Bárány, K. (1987). Comparison of Myosin Light Chain Phosphorylation in Uterine and Arterial Smooth Muscles. Comp. Biochem. Physiol., 87B, 271-277.
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67. Erdodi, F., Rokolya, A., Di Salvo, J., Bárány, M. and Bárány, K. (1988). Effect of Okadaic Acid on Phosphorylation-dephosphorylation of Myosin Light Chain in Aortic Smooth Muscle Homogenate. Biochem. Biophys. Res. Com., 153, 156-161.
68. Erdodi, F., Rokolya, A., Bárány, M. and Bárány, K. (1988). Phosphorylation of the 20,000 Dalton Myosin Light Chain Isoforms of Arterial Smooth Muscle by Myosin Light Chain Kinase and Protein Kinase C. Arch. Biochem. Biophys., 266, 583-591.
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70. Erdodi, F., Rokolya, A., Bárány, M. and Bárány, K. (1989). Dephosphorylation of Distinct Sites in Myosin Light Chain by Two Types of Phosphatase in Aortic Smooth Muscle. Biochim. Biophys. Acta, 1011, 67-74.
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75. Rokolya, A., Bárány, M. and Bárány, K. (1991). Modification of Myosin Light Chain Phosphorylation in Sustained Arterial Smooth Muscle Contraction by Phorbol Dibutyrate. Biochim. Biophys. Acta, 1057, 276-280.



76. Bárány, M., Rokolya, A. and Bárány, K. (1991). Exchange of 20-kDa Myosin Light Chain-Bound Phosphate during Sustained Contraction of Arterial Smooth Muscle. Arch. Biochem. Biophys., 287, 199-203.
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78. Bárány, K., Polyak, E. and Bárány, M. (1992). Protein Phosphorylation in Arterial Muscle Contracted by High Concentration of Phorbol Dibutyrate in the Presence and Absence of  $Ca^{2+}$ . Biochim. Biophys. Acta, 1134, 233-241.
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81. Bárány, M. and Bárány, K. (1993). Calponin Phosphorylation Does not Accompany Contraction of Various Smooth Muscles. Biochim. Biophys. Acta, 1179, 229-233.
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Abstracts:

1. Bárány, M., Bárány, K., Guba, F. Koteles, G. and Nagy, E. (1957). Herstellung von Aktin ohne vorherige Myosinextraktion. Acta Physiol. Acad. Sci. Hung. Suppl., 11, 33.
2. Oppenheimer, H., Bárány, K., Terry, H. and Forsyth, E. (1961). Molecular Weight and Size of Myosin from Mice with Hereditary Muscular Dystrophy. Fed. Proc., 20, 299.
3. Oppenheimer, H., Rogers, B.R., Finkelstein, E.C. and Bárány, K. (1962). Composition of Skeletal Muscle Cell Fractions in Mice with Hereditary Muscular Dystrophy. Fed. Proc., 21, 313.
4. Bárány, K., Bárány, M., Oppenheimer, H., Young, J. and Antony, T.T. (1963). Effects of Ultrasonics on L-Myosin and the Meromyosins. Fed. Proc., 22, 351.
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6. Oppenheimer, H., Bárány, K., Fenton, J. and Maslivec, O. (1964). Physical Chemical Studies on Succinylated Myosin. Sixth International Congress of Biochemistry, New York, Abstracts VIII, p. 662.
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15. Bárány, M., Bárány, K. and Gaetjens, E. (1971). Change in the Reactivity of the Head Part of Myosin during Contraction of Intact Frog Muscle. Fed. Proc., 30, Part II, 1147.
16. Bárány, M., Bárány, K., Gaetjens, E. and Horvath, B.Z. (1972). Resemblance of Troponin-Tropomyosin to other Protein Fractions in Frog Muscle. Biophys. J., 12, 284a.
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20. Bárány, M., Bárány, K. and Gaetjens, E. (1974). An Altered Phosphorylation Reaction in Muscles of Chickens with Hereditary Muscular Dystrophy. Fed. Proc., 33, 402.
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