

## CURRICULUM VITAE

## János M. Varga

Born on 06-19-35, in Nagyoroszi, Hungary

## EDUCATION

University of Technology, Budapest, (Dipl. Chem Eng. organic chemisry) 1959  
 Eötvös L. Univ. Sciences, Budapest, dr. rer. nat. (PhD in biochemistry) 1966

## TRAINING

Pre-doctoral training in microbiological biochemistry in Centro Internazionale di Chimica  
 Microbiologica (dir. Prof. E. Chain), Istituto Superiore di Sanità, Rome, Italy, 1963-64  
 Post-doctoral training in immunochemistry at Yale University Medical School, New  
 Haven, Ct. USA 1971-73

## APPOINTMENTS

Research Institute for Medicinal Plants, Budapest  
 Research Associate (1959-1960)  
 Division of Antibiotics, Drug Reserach Center, Budapest  
 Research Associate (1960-1967)  
 Royal Institute of Technology Stockholm, Sweden  
 Research Associate (1967-1969)  
 Pharmacia AB, Allergy Diagnostics, Uppsala, Sweden  
 Section Head (1969-1971)  
 Yale University, New Haven, CT, USA  
 Dept. Molecular Biophysics and Biochemistry, Research Associate (1969)  
 Dept. Dermatology, Asst. Prof. (1974-1976) Assoc. Prof. (1976-1983)  
 Senior Research Scientist/Res. Pofessor (1983-1984)  
 University of Berkeley, California  
 Visiting professor, one year sabbatical (1978-79)  
 National Cancer Institute, NIH, Washington, USA  
 Program Director for Molecular Immunology (1984-86)  
 Executive Secretary for Biochemical Endocrinology (1986-87)  
 University of Innsbruck, Austria  
 Dept. Dermatology, Res. Professor, 1988-1995  
 Institute of General and Theoretical Chemistry, Gastprofessor 1995-1997  
 Honorarprofessor 1997-

Awards: Research Carrier Development Award NIH (1976)  
 Principal Investigator NIH, research grant awards (1979-1984)  
 Associate board member, National Foundation for Cancer Research (1980-84)

## RESEARCH PROJECTS

With selected publications

1. *Synthesis of local anaesthetics by derivatization of the alkaloid cotarnin*  
Eckhart E, Varga J.: Helyiérzéstelenítő hatású kotarninszármazékok.  
Magy. Kém. Foly. 67: 509-511, 1961 (in Hungarian),  
Periodica Politechnica 6: 57-64, 1962 (in German)
2. *Quantitation of morphine by polarography* (Res. Inst. Pharmacognosy,  
Budapest, unpublished)
3. *Discovery of an inducible enzyme in Penicillium chrysogenum*  
Horvath I and Varga JM: Enzymic inactivation of trichothecin and crocotoxin.  
Nature 192: 4797, 1961, Acta Microbiol. Hung. 9:117-121, 1962
4. *Antibiotic research*  
Horvath I, Lovrekovich I and Varga JM.: K178 – a new antibiotic  
Zeitschrift für Allg Microbiologie 4: 236-241, 1964  
Gado I, Horvath I and Varga JM.: Process for viomycin production  
Hung Pat #153 317, 1965
5. *Regulation of valine and isoleucine biosynthesis in microorganisms* (PhD thesis work)  
Varga JM and Horvath I. J Mol. Biol. 13: 596-599, 1965; J Bacteriol 92: 1596, 1966  
The role of acetohydroxy acid synthetase in the regulation of valine and isoleucine  
biosynthesis in P. aeruginosa. Acta Biochem Biophys Hung 2: 303-315, 1967; 2: 357-369,  
1967; 2: 371-380, 1967
6. *Metabolism of phenolic compounds by microorganism isolated from soil in Sweden*  
Varga JM and Neujahr HY. Plant and Soil 33: 565-571, 1970;  
Eur. J. Biochem 12: 427-434, 1970; 13: 37-44, 1970
7. *Translation of Semliki Forest Virus RNA in a cell-free system* (Dept. Molec. Biol. Yale,  
1969, unpublished)
8. *Radioimmunosorbent assay of allergens for in vitro allergy testing*  
Varga JM and Ceska M. J Int. Arch. Allerg. Appl. Immunol 42: 438-453, 1972;  
Characterization of allergens by isoelectric focusing and the RAST method J. Allerg Clin  
Immunol 49: 274-284, 1972; 49: 1-9, 1972; CITATION CLASSIC, WHO standard for the  
characterization of allergens
9. *Quantitative amino acid compositions at the pico-mole level using fluorescence scanning.*  
Varga JM and Richards FF. Analytical Biochemistry 53: 397, 1973
10. *On the specificity of antibodies – The role of heteroligating antibodies in the  
„degeneracy” of the humoral immune response*  
Varga JM, Konigsberg W and Richards FF Proc Nat Acad Sci 70: 3269-3274, 1973;  
Science 187: 130-137, 1975; Ann. Immunol 127: 253-260, 1976;  
PNAS 74: 1224-1228, 1977;

11. *The first 3-dimensional structure of an antibody-hapten complex at 3.5 Å resolution*  
Varga J.M. Lande S. and Richards F.F. *J Immunol* 112: 1565-1570, 1974;  
Amzel LM, Poljak RJ, Saul F, Varga JM and Richards FF. *Proc Nat Acad Sci* 71: 1427-1430, 1974
12. *Regulation of melanocyte stimulating hormone action at the receptor level – cell-cycle dependent expression of MSH receptors*  
Varga JM, DiPasquale A, McGuire J, Pawelek J and Lerner AB.  
*Proc Nat Acad Sci* 71: 1590-1593, 1974
13. *Internalization of a peptide hormone by mouse melanoma cells*  
Varga JM, Moellmann GE, Fritsch P, Godawska E and Lerner AB.  
*Proc Nat Acad Sci* 73: 559-562, 1976; Lerner AB, Moellmann G, Varga JM, Halaban R and Pawelek J.: Action of melanocyte stimulating hormone on pigment cells in culture. *Cold Spring Harbor Conferences on Cell Proliferation* 6: 187-197, 1979
14. *Selective targeting of drugs on melanoma cells by hormone-toxin conjugates*  
Varga JM, Asato N, Lande S and Lerner AB. *Nature* 267: 56-58, 1977;  
Mechanism of action of MSH-Daunomycin: *Nature* 292: 467-469, 1981; Use of hormones for drug targeting Varga JM and Asato N. In "Targeted Drugs", Wiley, p.73-88, 1982;  
Synthesis of hormone-toxin conjugates: Varga JM. *Methods in Enzymology*, 112: 259-269, 1985;
15. *Melanoma cells in culture: a cell differentiating system*  
Varga JM, Lambert DT, Airoidi L, Moellmann GE, Hudson A, Yu RK, Makala LJ, Kuklinska E, Misner P, Bartholomew JC and Lerner AB. Phenotypic variations in murine melanoma cells grown in serum-containing and defined media.  
*Cold Spring Harbour Conferences on Cell Prolifeation*, 9: 899-910, 1982
16. *Cell-surface markers in normal and transformed pigment cells*  
Carubia JM, Yu RK, Macala LJ, Kirkwood JM and Varga JM.: Gangliosides of normal and neoplastic human melanocytes. *Biochem. Biophys. Res. Comm.* 120: 500-504, 1984
17. *Cell cycle control by psoralens and UV light in mouse melanoma cells*  
Varga JM, Wiesehahn G, Bartholomew JC and Hearst JE.: Dose-dependent effects of psoralens + UV light on the cell cycle of murine melanoma cells. *Cancer Research* 42: 2223-2226, 1982; *J. Invest. Dermatology* 76: 409-413, 1981
18. *Prevention of transplantable melanoma tumor development by prophylactic administration of Vitamine C*  
Varga JM and Airoidi L. *Life Sciences* 32: 1559-1564, 1983
19. *Radioderivatization: a novel method for the immobilization of small molecules and proteins on the surface of polymers*  
Varga JM and Fritsch P. *FASEB J.* 4: 2671-2677, 1990; 2678-2683, 1990;  
*J Chromatography*, 536: 155-164, 1991; *Chromatographia* 30: 527-532, 1990;  
*Allergy* 48:151-157, 1993; *Immunol. Letters* 33:139-144, 1992; U.S. patent No. 5,196,478

## 20. Mechanism of allergic cross-reactions

Varga JM, Kalchschmid G, Klein GF and Fritsch P.: I. Multispecific binding of ligands to a mouse monoclonal anti-DNP IgE antibody *Molec. Immunol.* 28: 641-654, 1991; II. Cross-stimulation, by chemically unrelated ligands, of rat basophilic leukemia cells *Molecular Immunology*, 28: 655-659, 1991; III. *Int. Arch. Allergy and Immunology* 108:196-199, 1995; IV. Kofler H, Schneg I, Geley S, Helmberg A, Varga JM and Kofler R: cDNA cloning and variable-region sequence analysis of two IgE antibodies specific for TNP - *Molecular Immunology*, 29: 161-166, 1992; V. Droupardi, P.R., Varga J.M. and Linthicum, D.S: Participation of aromatic residues in the ligand binding sites of two multispecific IgE monoclonal antibodies *Molec. Immunol.* 31:537-548, 1994;

## 21. Computer-aided molecular modeling of IgE antibody-ligand interactions

– *Antibody combining site-ligand complexes obtained by automated docking*

Sottriffer CA, Liedl KR, Winger R, Gamper A, Kroemer RT, Rode BM, Droupadi PR, Linthicum DS and Varga JM.: Heterologation of a mouse monoclonal IgE antibody IgE(La2) with small molecules, analysed by automated docking - *Molec. Immunol.* 33:129-144, 1996; Winger RH, Liedl KR, Sottriffer CA, Gamper AM, Kroemer RT, Rode BM and Varga JM.: Prediction of IgE(Lb4)-ligand complex structures by automated docking - *J. Molec. Recognition* 9:239-246, 1996; Sottriffer CA, Winger RH, Liedl KR, Rode BM and Varga JM.: Comparative docking studies on hapten binding to multispecific antibodies IgE-La2 and -Lb4 *J. Comp-Aided Molec. Design* 10:305-320, 1996; Gamper AM, Winger RH, Liedl KR, Sottriffer CA, Varga JM and Rode BM: Comparative molecular field analysis (COMFA) of haptens docked to the multispecific antibody IgE(Lb4) *J. Med. Chem.* 39:3882-3888, 1996; Ligand-induced domain movement in an antibody Fab: Sottriffer, CA, Liedl KR, Linthicum DS, Rode BM and Varga JM: Molecular dynamics studies confirm the unique domain movement observed experimentally for Fab NC6.8 upon complexation and reveal its segmental flexibility - *J.Mol.Biol.* 278:301-306, 1998; Sottriffer CA, Cooper A, Flader W, Liedl KR, Rode BM, Linthicum DS and Varga JM: Ligand-binding by antibody IgE(Lb4) Assessment of subsite binding preference by comparative studies using titration microcalorimetry and molecular dynamics free energy simulations - *Biophysical Journal* 78:2966-2977, 1999; Sottriffer, CA, Rode, BM, Varga, JM and Liedl, KR: Elbow flexibility and ligand-induced domain rearrangements in antibody Fab NC6.8 - *Biophysical J.* 79:614-628, 2000; Sottriffer CA, Flader W, Winger RH, Rode BM, Liedl KR and Varga JM: Automated docking of ligands to antibodies *METHODS*, 20:280-291, 2000

## 22. The Human Genome Project set in motion

In the National Institutes of Health the first feasibility study for sequencing the total human genome was presented on June 18, 1986 by J.M. Varga to the Board of Scientific Counselors.

*Blue Sheet* HEALTH POLICY AND BIOMEDICAL RESEARCH NEWS June 25, 1986:

„Most of the DNA sequence of the human genome could be determined by year 2000, at a cost between \$500 million and \$3 billion, under a plan presented by National Cancer Institute official Janos Varga. Varga, who directs the molecular biology program at the NCI Division of Cancer Biology and Diagnosis, outlined the plan to the DCBD board of scientific counselors on June 18 and presented cost estimates of various stages of the project, which he said would require a „national concerted effort.” ... Varga said that there is a 'consensus' among researchers that the sequencing program must not be undertaken at the expense of support for investigator-initiated research. 'Small science should not suffer at the expense of big science.'”

Reported in *Cancer Letters*, Vol. 12, No. 31, Aug. 1, 1986;

## BOOK CHAPTERS

Richards FF, Amzel LM, Königsberg WH, Manjula BN, Poljak RJ, Rosenstein RW, Saul F and Varga JM. Polyfunctional antibody combining regions.

In: *The Immune System*, Eds.: FE Sercarz, AR Williamson and CF Fox, Academic Press, New York, p.53-68, 1974

Richards FF, Varga JM, Rosenstein RW and Königsberg WH. The antigen combining region of immunoglobulins.

In: *Immunochemistry*, Ed. MW Steward, England, Chapter 2, p.59-88, 1978

Richards FF, Rosenstein RW, Varga JM and Königsberg WH. Antibody specificity.

In: *Immunological Diseases*, 3rd Edition, Ed. David W. Talmage, Little Brown, NY, p.121-138, 1978

Richards FF, Rosenstein RW, Varga JM and Königsberg WH. Antibody combining regions. in: *Comprehensive Immunology*, 1st Edition, Vol. III, Eds.: G Litman and RA Good, Chapter 4, p.117-154, 1978

Richards FF, Varga JM, Rosenstein RW, Königsberg WH. Antigen-combining regions of immunoglobulins. In: *Structure and Function of Antibodies*, Eds.: LE Glynn and MW Steward, John Wiley and Sons, NY, p.59-88, 1981

Varga JM and Asato N. Peptide hormones as drug carriers. in: *Polymers in Biology and Medicine*, Ed.: E Goldberg, vol. 2. "Targeted Drugs", Wiley, p.73-88, 1982

Varga JM, Airoidi L and Davila-Huerta AG. Separation of biologically active derivatives of amino-substituted melanotropin conjugates by reversed-phase HPLC. In: *New Approaches in Liquid Chromatography*, Elsevier, Amsterdam, p.3-12, 1984

Davila-Huerta G and Varga JM. Identification of positional analogues of SPDP- $\beta$ -MSH derivatives by reversed-phase HPLC of dansyl amino acids.

In: *Chromatography, the State of Art*, Elsevier, Amsterdam, p.258-271, 1986

Varga JM, Klein GF and Fritsch P. Multispecific allergic reactions. *New Trends in Allergy*, pp 100-104, Springer Verlag, 1991

## PATENTS

Gadó I, Horváth I and Varga JM. A process for viomycin production.

Hung Pat #153 317, 1965

Varga JM and Fritsch P. Immobilization of ligands by radio-derivatized polymers  
US Patent No. 5,196,478 (1993) also patented in Canada, Japan, Finland, Norway and the EU.

## PUBLICATIONS IN HUNGARIAN

### ESSAYS

Az Emberi Öröklés Kódjáról *Valóság*, 92/1, 100-106 1992

*Quo vadis*, magyar tudomány? *Valóság*, 92/2 56-64, 1992

Magyar paradoxon a gének és nyelvek evolúciójában? *Valóság*, 92/7, 34-39, 1992

A mai magyarokban csak nyomokban lelhetők fel az ősmagyarok génjei

HVG (Interjú) 1992. szept. 5, p41-42

A rendszerváltás kora? *Valóság*, 92/11, 48-53, 1992

*Quo vadis*, magyar művészet? *Valóság*, 92/12, 46-51, 1992

GEA: Földistenimádat, avagy geofiziológia? *Valóság*, 93/5, 33-39, 1993

### BOOKS

Elmélkedések 2004

Aforizmák 2006

Epifrázisok - AdLibrum, 2010

Az ÉSZ Törvénye – Az életkor-szabályozás regénye - AdLibrum, 2010