## BioClonetics Incorporated – Dr. Joseph Cotropia

Name: **Joseph Paul Cotropia, M.D.**
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Education:

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| 1962-1966 | University of Texas at Austin Bachelor of Science in Chemistry *cum laude* |
| 1966-1968 | University of Wisconsin at Madison Master of Science in Physiological Chemistry |
| 1969-1973 | University of Texas Health Science Center at Dallas<br>Southwestern Medical School<br>Doctor of Medicine |

Teaching Experience:

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| 1968-1969 | American College of Switzerland at Leysin, Suisse<br>Instructor of Chemistry |

Professional Training:

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| 1973-1979 | Assistant Professor of Immunology and Assistant Immunologist<br>Developmental Therapeutics<br>University of Texas System Cancer Center<br>M.D. Anderson Hospital and Tumor Institute<br>Houston, Texas 77030 |
| 1979-1980 | Internship - Internal Medicine<br>Presbyterian Hospital, Dallas, Texas 75231 |
| 1980-1981 | Gulf Coast Emergency Physicians<br>Houston, Texas 77060 |
| 1981-1983 | Residency - Internal Medicine<br>Brackenridge Hospital<br>Central Texas Medical Foundation<br>Austin, Texas 78701 |

Clinical Experience:

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| 1983-1987 | University of Texas<br>Student Health Center<br>Staff Physician<br>Austin, Texas 78713 |

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| 1987-1988 | Food and Drug Administration<br>Center for Biologics Evaluation and Research<br>Division of Blood and Blood Products<br>Cell Biology<br>Bethesda, Maryland 20892 |
| 1989 - | University of Pennsylvania<br>Student Health Service<br>Staff Physician<br>Penn Tower - Lower Level<br>Philadelphia, Pennsylvania 19104-4283<br>(215) 662-2863 |
| 1989 - | BioClonetics Incorporated<br>President<br>921 S 8th Carpenter Street<br>Philadelphia, Pennsylvania 19147-3941<br>(215) 783-8660 phone<br>(305) 832-0519 fax |

## Publications

1. Cheung, G., **Cotropia, J.P.**, Sallach, H., Comparative Studies of Enzymes Related to Serine Metabolism in Fetal and Adult Liver. Bioc. Biop. A., 170:334-340, 1968.

2. Cheung, G., **Cotropia, J.P.**, Sallach, H., Effects of Dietary Protein on Hepatic Enzymes of Serine Metabolism. Arch. Bioch., 129:672-682, 1969.

3. Prager, M., Derr, I., Swann, A., **Cotropia, J.P.**, Immunization with Chemically Modified Lymphoma Cells. Cancer Research, 31:1488-1491, 1971.

4. **Cotropia, J.P.**, Cell-Surface and Immunological Characterization of Acute Lymphoblastic Leukemia Blasts. Proc. of Am. Assoc. for Cancer Research, 15:29, 1974.

5. **Cotropia, J.P.**, Surface Proteins of Human Acute Myelogenous Leukemia (AML) Blasts. Proc. of Am. Assoc. for Cancer Research, 16:42, 1975.

6. **Cotropia, J.P.**, Hersh, E.M., Gutterman, J.U., Surface Proteins of Human Acute Myelogenous Leukemia (AML) Cells. Federation Proceedings, 34:1141, 1975.

7. Hersh, E.M., Gutterman, J.U., Mavligit, G.M., Reed, R.C., Granatek, C.H., and **Cotropia, J.P.**, Tumor-Associated Cell-Surface Antigens in the Diagnosis

and Therapy of Human Cancer. Twenty-Eighth Annual Symposium on Fundamental Cancer Research, "Cellular Membranes and Tumor Cell Behavior", at The University of Texas System Cancer Center, M.D. Anderson Hospital and Tumor Institute, 541-547, 1975.

8. **Cotropia, J.P.**, Gutterman, J.U., Hersh, E.M., and Granatek, C.H., Antigen Expression and Cell Surface Properties of Human Leukemic Blasts. Annals of the New York Academy of Sciences, 276:146-164, 1976.

9. **Cotropia, J.P.**, Gutterman, J.U., Hersh, E.M., and Mavligit. G.M., Surface Immunoglobulins and Protease Inhibitors of Human Acute Leukemia Blasts. International Journal of Cancer, 20:520-531, 1977.

10. **Cotropia, J.P.**, and Trousil, E.B., Neutral Proteases from Human Leukemia Cells and Their Interaction with IgG. Proc. of Am. Assoc. for Cancer Research, 19:157, 1978.

11. **Cotropia, J.P.**, Production of Human Monoclonal Antibodies against Human Immunodeficiency Virus (HlV-l). Food and Drug Administration Science Exposition, April 1988.

12. **Cotropia, J.P.**, Ugen, K.E., Lambert, D., Ljunggren-Broliden, K., Kliks, S., Hoxie, J., and Weiner, D.B., Characterization of Human Monoclonal Antibodies to the HIV-1 Transmembrane gp41 Protein. In Vaccines 92: Modern Approaches to New
Vaccines Including Prevention of AIDS. (ed. F. Brown et al.), Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York 1992.

13. Kliks, S., **Cotropia, J.P.**, Weiss, C., Katinger, H., and Levy, J.A., Synergism of Broadly Neutralizing Effect by Two Transmembrane Envelope gp41 Monoclonal Antibodies [Clone 3 Antibody + 2F5]. Conference on Advances in AIDS Vaccine Development, Seventh Annual Meeting of the National Cooperative Vaccine Development Groups for AIDS (Reston, VA) November 6 - 10, 1994.

14. Ugen, K., Srikantan, V., Wang, B., Goedert, H., Ziegner, U., Agadjanyan, M.G., Boyer, J.D., **Cotropia, J.P.**, Williams, W.V., and Weiner, D.B., Vertical Transmission of Human Retroviral Infections: Immunological Parameters. Archives of STD/HIV Research, 8:283-292, 1994.
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15. **Cotropia, J.P.,** Ugen, K.E., Srisakul, K., Broliden, K., Broliden, P-A., Hoxie, J.A., Srikantan, V., Williams, W.V., Weiner, D.B., A Human Monoclonal Antibody to HIV-1 with Neutralizing Activity Against Diverse Laboratory Isolates. Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology, 12(3):221-232, July 1996.
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16. **Cotropia, J.P**., Ugen, K.E., "Passive Immunotherapy Against HIV-1: Current Status and Future Potential" in Human Retroviral Infections : Immunological and Therapeutic Control, edited by Kenneth E. Ugen, Herman Friedman and Mauro Bendinelli (Volume of the Series : Infectious Agents and Pathogenesis. Series Editors : Mauro Bendinelli and Herman Friedman), Plenum Press , New York and London, 1999 (in press).
17. Viveros, M., Dickey, C., **Cotropia, J.P**., Gevorkian, G., Larralde, C., Broliden, K., Levi, M., Burgess, A., Weiner, D.B., Agadjanyan, M., and Ugen, K.E., Characterization of a Novel Human Immunodeficiency Virus Type 1 Neutralizable Epitope within the Immunodominant Region of gp41, Virology, 270:135-145, 2000.

18. **Cotropia, J.P.**, and Ugen, K.E., Passive Immunotherapy against HIV-1: Current Status and Potential, in Human Retroviral Infections—Immunological and Therapeutic Control, (eds. Ugen, K.E., Bendinelli, M., and Friedman, H.), Kluwer Academic/Plenum Publishers (New York) 217-238, 2000.

19. Flavie Ferrantelli, Moiz Kitabwalla, Robert A. Rasmussen, Chuanhai Cao, Ting Chao Chou, Hermannn Katinger, Gabriela Stiegler, Lasa M. Cavacini, Yun Bai, **Joseph Cotropia**, Kenneth E. Ugen, and Ruth M. Ruprecht. Potent Cross-Groups Neutralization of Primary Human Immunodeficiency Virus Isolates with Monoclonal Antibodies---Implications for Acquired Immunodeficiency Syndrome Vaccine. Journal of Infectious Diseases 189, (1):71-74, 2004.

20. Chuanhai Cao, Yun Bai, Mary Jolene Holloway, **Joseph Cotropia**, and Kenneth E. Ugen. Characterization of a Novel Human Anti-HIV1 gp41 gp41 IgM Monoclonal Antibody Designated as Clone 37, DNA and Cell Biology 2004, in press.

## SCIENTIFIC BIOGRAPHY

Through the work of Dr. Cotropia, BioClonetics has achieved the production of the human cell lines described in the above referenced publications. Dr. Cotropia has had extensive training in both clinical research and academic medicine environments, and has been involved primarily in the immunological aspects of health care at local, state, and national levels. He has been a researcher and reviewer of pre-clinical biologic protocols at the United States Food and Drug Administration and is therefore familiar with all of the aspects of federal regulatory controls regarding investigation of new drugs and licensing of biological products.

Clone 3 Antibody, a human monoclonal antibody created by this principal investigator, defines a conserved neutralizable epitope on HIV-1 envelop gp41, and therefore potentially provides an efficacious passive immunotherapeutic modality

with broadly neutralizing capability directed against geographically diverse HIV-1 clinical isolates. Added financial support will permit accelerated discoveries and results in the immediate future when the proposed research and development are continued at BioClonetics.

Presently, collaborative studies are expanding the characterization of a panel of human monoclonal antibodies directed against HIV-1, as described in the proposed pre-clinical in vitro studies.

In vivo collaborative studies for Clone 3 Antibody are planned in collaboration through Ellen Vitetta, Ph.D. (Southwestern Medical Center, Dallas, Texas) in newborn rhesus macaques primate studies, followed by human clinical trials that will be conducted by with Yvonne Bryson, M.D. (Chief of Pediatrics UCLA) to validate the efficacy of neutralizing human monoclonal anti-HIV antibodies for blocking maternal to fetal transmission of HIV-1.

BioClonetics has been granted 4 U.S. patents and 1 European patent on the Clone 3 hybridoma cell line, anti-gp41 human monoclonal antibody and the use of the Clone 3 epitope in the production of a vaccine against HIV/AIDS.