

CURRICULUM VITAE

NAME
Barbara ANDREWS,

POSITION TITLE
Professor

EDUCATION

| INSTITUTION AND LOCATION | DEGREE | YEAR CONFERRED | FIELD OF STUDY |
|----------------------------|--------|----------------|-------------------------|
| University of London, U.K | BSc. | 1974 | Biochemistry |
| University of London, U.K. | Ph.D. | 1985 | Biochemical Engineering |

Topic: Regulation of Microbial Enzyme Synthesis
Title: The Synthesis and Regulation of Lytic Enzyme Systems by *Cytophaga* sp. and *Oerskovia* sp. in Batch and Continuous Culture.

RESEARCH AND/OR PROFESSIONAL EXPERIENCE

ACADEMIC EMPLOYMENT

2004 - present, Full Professor and Deputy Director of the Center for Biochemical Engineering and Biotechnology, Department of Chemical and Biotechnology Engineering, and School of Physical and Mathematical Sciences, University of Chile. 1996 - 2004, Associate Professor Department of Chemical Engineering, School of Physical and Mathematical Sciences, University of Chile. 1987 - 1994, Senior Research Associate, Biochemical Engineering Laboratory, University of Reading, England. 1982 - 1986, Research Associate, Biochemical Engineering Laboratory, Department of Chemical Engineering and Applied Chemistry, Columbia University, New York.

PUBLICATIONS:

1. Welsh.J., Andrews, B., Cowling, P., Ebringer,A., Ebringer,R. (1978) Uveitis and Crossreactivity Between Vitreous Humour and Klebsiella in Rabbits and Man. In Immunology 1978, Proc, Fourth Immunol. Meeting., Eds. Gergely, J., Medgysei, G.A. and Hollan, S.A. Akademiai Kiado, Kultura, Budapest.
2. Andrews, B. A. and Asenjo, J. A. (1984) Exocellular Synthesis of Lytic Enzyme Complex: B(1-3) Glucanase, Protease and Mannanase in Inducible and Constitutive Bacteria. Third Eur. Cong. Biotechnol., 1, 9 -13.
3. Le Corre, S., Andrews, B. A. and Asenjo. J. A. (1985) Use of a Lytic Enzyme System from *Cytophaga* sp. in the Lysis of Gram Positive Bacteria. Enzyme Microb. Technol., 7, 73 -78.
4. Asenjo, J. A., Andrews, B. A., Hunter, J. B, and Le Corre, S. (1985) Microbial Cell- Lytic Enzymes: Production and Reaction Kinetics. Process Biochem., 20, (4), 158 -164.
5. Andrews, B. A. and Asenjo, J. A. (1986) Synthesis and Regulation of Extracellular B(1-3)Glucanase and Protease in Batch and Continuous Culture. Biotechnol. Bioeng ., 28, 1366-1375.
6. Andrews, B. A. and Asenjo, J. A. (1987) Continuous Culture Studies of the Synthesis and Regulation of B(1 -3)-Glucanase and Protease Enzymes from *Oerskovia xanthineolytica*, Biotechnol. Bioeng., 30, 628-637
7. Andrews, B. A. and Asenjo, J. A. (1987) Production of Enzyme Systems in Continuous Culture for the Controlled lysis of Microbial Cells. Ann. N.Y. Acad. Sci., 506, 637- 641
8. Andrews, B.A. and Asenjo, J. A. (1987) Enzymatic Lysis and Disruption of Microbial Cells, Trends in Biotechnol., 5, 273 -211

9. Asenjo, J. A., Andrews, B. A. and Pitts, J. M. (1988) Design of Enzyme Systems for Selective Product Release from Microbial Cells; Isolation of a Recombinant Protein from Yeast, *Ann. N. Y. Acad. Sci.*, **542**, 140 -152
10. Head, D. M., Andrews, B.A. and Asenjo, J. A. (1988) Epoxy- Oxirane Activation of PEG for Protein Ligand Coupling, *Biotech. Techniques*, **3**, 27 -32
11. Asenjo, J. A. and Andrews, B. A. (1989) Design and Use of Enzyme Systems for Selective Product Release from Microbial Cells, *Bioproducts and Bioprocesses*, Eds. Fiechter, A. et al., Springer Verlag, 223 -234
12. Andrews, B. A. and Asenjo, J. A. (1989) Liquid Two Phase Partitioning of Proteins, in *Protein Purification: a Practical Approach*, Eds. Harris, E.L.V. and Angal, S., IRL Press, 161- 174
13. Andrews, B.A., Head, D., Dunthorne, P. and Asenjo, J.A. (1990) PEG Activation and Ligand Binding for the Affinity Partitioning of Proteins in Aqueous Two-Phase Systems, *Biotech. Techniques*, **4**, 49 -55
14. Asenjo, J.A. and Andrews, B.A. (1990) Enzymatic Cell Lysis for Product Release, in 'Separation Processes in Biotechnology' Ed. J.A. Asenjo, Marcel Dekker, New York, 143 -175.
15. Asenjo, J.A., Franco, T., Andrews, A.T. and Andrews, B.A. (1990) Affinity Separation of Proteins in Aqueous Two-Phase Systems, in 'Biologicals from Recombinant Microorganisms and Animal Cells-Production and Recovery' Eds. M. White, S. Reuveny and A. Shaffermann, VCH Publishers, 69- 83.
16. Andrews, B.A., Huang, R.-B. and Asenjo, J.A. (1990) Differential Product Release from Yeast Cells by Selective Enzymatic Lysis, in 'Biologicals from Recombinant Microorganisms and Animal Cells-Production and Recovery' Eds. M. White, S. Reuveny and A. Shaffermann, VCH Publishers.
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PATENTS

- US Patent : “Materials and Methods for Regulating Process Formation in Cell Culture”, US 60/459,506, March 31, 2003, Inventors: Caviedes, P., Caviedes, R., Freeman, T.B., Asenjo J.A., Andrews, B.A., Sepulveda D., Arriagada, C., Rivera, J.S.
- US Patent : “Protein and Nucleic Acid Sequence Encoding a Krill-Derived Cold Adapted Trypsin-Like Activity Enzyme”, US 10/896,010 July 22, 2004. Inventors: Asenjo J.A., Andrews, B.A., Reyes, F., Salamanca M., Burzio L.