

# Response and Resistance of Cancer Cells to Therapeutic Agents

## Faculty:

Edith Porter, M.D. & Susan Kane, Ph.D.

## Project for Scholars:

Development of resistance to current anticancer drug is a continuing problem in treatment of cancer. The Porter laboratory at CSULA has found that mucosal secretions contain host-derived lipids with antibacterial activity and in a joint venture with Molecular Express Inc., Los Angeles, we are testing the potential of selected lipids to be developed into novel antibiotic drugs. Considering that some anti-cancer drugs, such as doxorubicin, are antibiotics and that immune defense strategies in infectious diseases and tumor defense are similar in many ways, we hypothesize that some lipid antimicrobials may also exert anticancer activity. The student scholar will screen existing lipid antimicrobials manufactured by Molecular Express for cytotoxic activity using multi-drug resistant as well as highly susceptible cancer cell lines. The cell lines will be provided by COH collaborators. Cytotoxic activity will be evaluated by fluorescence based assays in a microtiter format and by flow cytometry performed at CSULA, and by clonogenic assays performed at COH. Doxorubicin will be tested as a control.

## Scholar Requirements:

Experiments will be performed at CSULA and COH. The student should commit about 10 - 15 hours per week during the quarter and 20 - 30 hours per week during off quarter. The student scholar should be able to travel between the two institutions. A working understanding of tissue culture is desirable. The scholar should have the ability to work independently and have very good communication skills.

## Contact Information:

Edith Porter, M.D. (PI)  
Department of Biological Sciences  
California State University, Los Angeles  
[eporter@calstatela.edu](mailto:eporter@calstatela.edu)  
(323) 343-6353

Susan Kane, Ph.D. (Co-PI)  
Division of Molecular Medicine  
City of Hope  
[skane@coh.org](mailto:skane@coh.org)  
(626) 301-8321