David B. Cooke III

Professor / Chair

Education

Courses Taught

Research Interests

Publications

Ph.D Thesis:

Education:

B.S. North Carolina Central University

M.S. North Carolina Central University

Ph.D. Howard University, College of Medicine, Department of Physiology and Biophysics

Fellowship: University of North Carolina at Chapel Hill; Lineberger Cancer Research Center

Courses Taught:

BS: Subject, Institution, Year

MS: Subject, Institution, Year

Ph.D: Physiology, Howard University, 1983

Research Interests:

Endocrinology and Cell Metabolism

Role of Oncogene Expression in Prostate Cancer

Tumor Progression in Prostate Cancer

Research in this laboratory utilizes the Dunning R-3327 rat dorsal prostatic adenocarcinoma system. This spontaneously developing cancer consists of several well defined sublines which exhibit varying stages of tumor progression similar to that of human prostate cancer. Our study of prostate cancer has demonstrated correlations between metastatic oncogene expression (ras family) and cellular differentiation (retinoic acid, diflouromethyl ornithine). The metastatic process involves the ability of a proliferative cellular mass to be motile, which suggests a deregulation of genetic and cellular controls. To this end, we have utilized invasion, chemoinvasion and adhesion assays as a means of distinguishing the metastatic phenomenom. In addition, confocal laser microscopy has been utilized to elucidate changes in the distribution of cytoskeletal proteins (actin, alpha-actinin, vinculin,vimentin) as a means of characterizing the metastatic process. In sum, this laboratory seeks to further characterize genotypic and phenotypic entities associated with tumor progression of the prostate as well as to demonstrate how differentiation therapy could be utilized as a tool for tumor suppression.

Selected Publications:

Donald, C., D.E. Montgomery, N.Emmett and D.B. Cooke, III. 1999. Invasive potential and substrate dependence of attachment in the Dunning R-3327 rat prostate adenocarcinoma model. Invasion and Metastasis (accepted for publication).

Blount, L.V. and D.B. Cooke, III. 1996. Genomic methylation patterns of the Dunning R-3327 prostatic adenocarcinoma system. Cancer Letters 98(2)213-218.

Blount, L.V. and D.B. Cooke, III. 1996. Point mutations in the Ki-ras2 gene of codon12 in the Dunning R-3327 prostatic adenocarcinoma system. Prostate 28(1):44-50.

Cooper, C.R., N. Emmett, S. Harris-Hooker, R. Patterson and D.B. Cooke, III. 1994. Biometric assessment of prostate cancer metastatic potential. World Journal of Urology 12(6):304-307.

Cooper, C.R., C.D. Donald, N. Emmet, S. Harris-Hooker, D.B. Cooke, III. 1993. The adhesion and invasion potential of rat prostatic cancer cells: A correlation with metastatic potential. Invasion and Metastasis 13:169-177.