Journal of Andrology, Vol 19, Issue 6 718-724, Copyright © 1998 by The American Society of Andrology



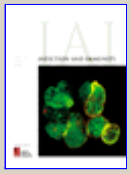
JOURNAL ARTICLE

# The primary culture of rat prostate basal cells

K. Y. Ilio, J. A. Nemeth, S. Lang and C. Lee
Department of Urology, Northwestern University Medical School, Chicago, Illinois 60611, USA.

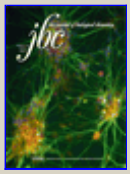
The objective of this study was to identify the cells from rat prostate epithelium that attach and proliferate in primary culture. Minced ventral prostate was dissociated by DNAse/collagenase digestion, suspended in RPMI-1640 containing 10% fetal bovine serum, and subjected to Percoll centrifugation to separate the epithelial cells from stromal cells. With the use of lectins, it became possible to identify and monitor the fate of the dissociated epithelial cells held in suspension at 37 degrees C for several hours. In tissue sections of the rat prostate, Griffonia simplicifolia I-isolectin B4 (GSI-B4) specifically bound to basal cells, while Glycine maximus (soybean agglutinin [SBA]) was specific for secretory cells. Double staining with lectins and propidium iodide of dissociated cells revealed a preponderance of GSI-B4-positive live cells. The cells were plated in WAJC-404 medium supplemented with various factors, including insulin (5 ng/ml), transferrin (5 ng/ml), EGF (10 ng/ml), and bovine pituitary extract (30 microg/ml). Epithelial colonies that formed and proliferated from these cells also stained positively for GSI-B4 marker and for cytokeratins specific for basal cells as assessed by immunocytochemical staining. Proliferation was greater in cells grown on a collagen Type I matrix. These findings suggest that the epithelial cells that survived in suspension and proliferated in culture originated from basal cells of the rat prostate epithelium.

## This article has been cited by other articles:



Journal of Leukocyte Biology HOME

G. Gatti, V. Rivero, R. D. Motrich, and M. Maccioni
Prostate epithelial cells can act as early sensors of infection by up-regulating TLR4 expression and proinflammatory mediators upon LPS stimulation
J. Leukoc. Biol., May 1, 2006; 79(5): 989 - 998.
[Abstract] [Full Text] [PDF]



JBC Online HOME

X.-D. Wang, J. Shou, P. Wong, D. M. French, and W.-Q. Gao
Notch1-expressing Cells Are Indispensable for Prostatic Branching Morphogenesis during Development and Re-growth Following Castration and Androgen Replacement
J. Biol. Chem., June 4, 2004; 279(23): 24733 - 24744.
[Abstract] [Full Text] [PDF]